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THE MUNICIPAL INDEX AND ATLAS used in connection with the current advertisements in THE AMERICAN CITY, places local officials in the most favorable position to obtain all types of available equipment and supplies from manufacturers who desire to serve municipal government departments. THE MUNICIPAL INDEX AND ATLAS (664 pages) is published annually by THE AMERICAN CITY MAGAZINE CORPORATION, 470 Fourth Avenue, New York 16, N. Y.

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East Chicago's

Modern Sewage Disposal Plant

Eimco is proud to have played a part in providing a substantial portion of the sewage treatment equipment for the modern sewage disposal plant built by the progressive City of East Chicago, Indiana. To the city administration, whose vision and careful planning made possible this splendid contribution to municipal sanitation; — to Russell B. Moore & Company, consulting engineers;—to McKay & Hasse, contractors, our congratulations on having conceived and built this unit. Population growth and space economy have been carefully considered — every safeguard to Public Health provided — and only the finest quality-built efficient machinery and equipment installed.

Eimco engineers welcome an opportunity to aid in planning Sewage Disposal Plants for Municipalities and Industry — and offer a complete line of Vacuum Filters and accessories.

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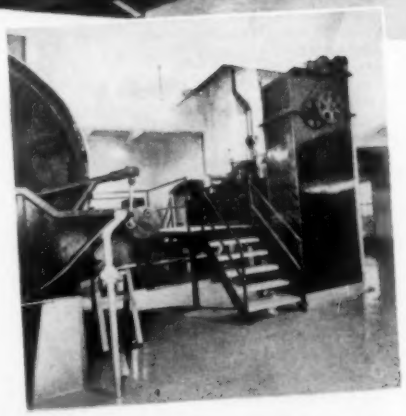


Above shows two 8' dia. x 10' face Eimco Sewage Filters.

Lower View shows filter with shower pipe connection, platform, mix tank and bucket elevator, all manufactured by Eimco.

What the "Full Employment" Bill Provides

To Foster Free Enterprise with Public Aid

BECAUSE of the importance to municipal officials and other readers of THE AMERICAN CITY of the Full Employment Bill* now before Congress, the following summary of this measure is reprinted from the *Governmental Affairs* bulletin of the Chamber of Commerce of the United States:

S. 380, to establish a national policy and program for assuring full employment through concertive efforts of industry, agriculture, labor, state and local governments, and the federal government.

Proposes to foster free enterprise and the investment of private capital in trade and commerce and in the development of the natural resources of the United States, by assuring full-time employment at all times to all Americans who have finished their schooling and who do not have full-time housekeeping responsibilities.

A national production and employment budget would be transmitted by the President to Congress each year, setting forth (a) the estimated labor force, including self-employed, (b) the estimated volume of investment and expenditure by private enterprise, consumers, state and local governments and the federal government, required to produce such volume of gross national product, at expected levels of prices, as would be necessary to provide employment opportunities for such labor force, and (c) the estimated aggregate volume of prospective investment and expenditure by all the agencies mentioned (not taking into account increases or decreases which might result from programs set out in the budget).

If the estimates indicated a prospective deficiency in the national budget, the President would set forth a general program for encouraging such increased non-federal investment and expenditure based on legislation. Program might include federal policies and activities in reference to banking and currency, monopoly and competition, wages and working conditions, foreign trade and investment, agriculture, taxation, social security, the development of natural resources, and such other matters as may directly or indirectly affect the level of non-federal investment and expenditure. This action might be supplemented by a program of federal investment and expenditure. The programs for the construction of federal public works would provide for performance by private concerns under contracts awarded under the terms of applicable laws.

If the estimates indicated a volume of prospective investment and expenditure greater than that needed to assure a full employment volume of production, the President would set forth in the national budget a general program for preventing inflationary economic dislocations, or to diminish the volume of investment and expenditure to the level required to assure a full employment volume of production, or both. The program just referred to would include such measures as might be necessary to assure that monopoly with respect to prices, production, or distribution, or other monopolistic practices, would not interfere with the achievement of the purposes of the Act.

A Joint Committee on the National Budget, composed of important chairmen and minority members of important Senate and House committees, would study and report to Congress on the national budget not later than March 1, of each year.

* This measure (S. 380) is a revised version of the previously proposed "Full Employment Act of 1945," introduced in December 1944 and mentioned in the January issue of THE AMERICAN CITY (page 103). The present measure was introduced in the Senate on January 22, 1945, by Senator James E. Murray of Montana, for himself and for Senators Elbert D. Thomas of Utah, Joseph C. O'Mahoney of Wyoming, Wayne L. Morse of Oregon, Charles W. Tobey of New Hampshire, George D. Aiken of Vermont, William Langer of North Dakota, and Robert F. Wagner of New York.

A 102-page "Summary of Federal Agency Reports on Full Employment Bill" has been issued (under date of July 12, 1945) by the Senate Committee on Banking and Currency, of which Senator Wagner is chairman.

ARCH OF WELCOME *By Rube Goldberg*

Reproduced by permission from THE NEW YORK SUN *for August 15, 1944*

Secretary Byrnes Endorses Full Employment Bill

"A domestic program for the maintenance of employment is an essential part of the pattern of international collaboration in the pursuit of peace and prosperity.

"Its enactment would demonstrate to other nations in a dramatic way that this country is determined to prevent depressions and thus contribute to establishment of a liberal trading system and an expanding economy. . . .

"To the extent that we are able to manage our own domestic affairs successfully, we shall win converts to our creed in every land. A strong, stable and prosperous America will give courage and hope to all friends of democracy abroad."

—From a Statement, August 21, 1945, by James F. Byrnes, Secretary of State, before a Senate group investigating plans to maintain post-war employment.

Basic Purposes of the Bill

The basic purposes of the Full Employment Bill have been summarized by Senator Murray, in a letter published in The *New York Times* of August 29, as follows:

1. To maintain a continuous study of our national economy so as to get advance warning of impending unemployment.
2. To locate, where possible, the causes of such pending unemployment and to remove the obstructions where they exist by reason of Government policies or procedures.
3. To assist and stimulate private enterprise so that it may be able to continue full employment.
4. To make such Government expenditures as may aid private enterprise to continue full employment.
5. To cover any deficiency in employment, if any, remaining after all employment possible has been provided through steps one to four inclusive by inaugurating public works to provide the additional employment required, but such public works are limited to those that add to the national economy and well-being and must be let to private contractors. Public works whose primary purpose is the creation of jobs are not authorized under this bill.

Lastly, the Government is not authorized to operate any production facilities and the bill contains no provisions for regimenting or managing private enterprise. Private enterprise is assisted and encouraged but it is left completely free to exercise its own ingenuity and initiative, which are the qualities that have made this country prosperous.

Ironbound Assurance to Private Industry

In a spirited defense of the provisions of the above-mentioned "full employment bill" in his column in the *New York Herald Tribune* for August 24, Mark Sullivan calls attention to the fact that "wherever assurance to private enterprise can be written into the bill, it is done, sometimes it is dragged in. . . . Plainly and sweepingly the bill

(Continued on page 131)

Suppose *you* hadn't been home for 3 years?

Chances are, the first thing you'd do when you got near a telephone would be to call the folks back home.

That's happening thousands of times every day now and we'd like to get every one of those calls through as quickly as possible.

So if the Long Distance operator says — "Please limit your call to 5 minutes" — that's to help everybody. It might be a service man who is waiting to get on the line.

BELL TELEPHONE SYSTEM

LISTEN TO "THE TELEPHONE HOUR" EVERY MONDAY EVENING OVER NBC

Our Municipal Notebook

New Head for N. Y. Borough Works

CHARLES W. WILLIAMS has been appointed Commissioner of Borough Works of Manhattan, New York City, by Edgar J. Nathan, President of the Borough. Mr. Williams, who has served as assistant commissioner since January 1, 1938, succeeds Walter D. Binger who recently resigned to enter the private construction field.

CARLYLE PHOTO

Charles W. Williams

Commissioner Williams is a civil engineering graduate of the Massachusetts Institute of Technology. Following his graduation he was employed by the New York State Public Service Commission working on subway construction and later served the Thompson and Binger, Inc., as field engineer on industrial construction.

During the years 1917 to 1919 he saw submarine service with the Navy. After the war he returned to Thompson and Binger. In 1923 he became assistant to the vice president of the Frederick Snare Corp. and in 1927 became secretary of the Suburban Engineering Co. In 1936 Mr. Williams started his own consulting engineering practice and continued it until he became Assistant Commissioner of the Borough Works in Manhattan.

For Informed Financing

AT A MEETING of the Commission of the City of Miami, Fla., not long ago two resolutions were adopted authorizing:

1. The acquirement by eminent domain of property for a sewage disposal plant, incinerator, and other municipal purposes.

2. The employment of the First Boston Corporation for financing services in connection with the proposed issuance and sale of sewer revenue bonds for the city of Miami.

The second resolution explains that in order to obtain the lowest possible interest rates in the financing of the sewage disposal system, "it is necessary to engage the services of a nationally recognized firm to assist in the preparation of a schedule of service charges, ordinances, trust indenture, bond maturity schedule, to advise regarding market conditions, and to perform other financial services in connection with the financing of said sewage disposal system."

A recent survey by THE AMERICAN CITY of 438 cities revealed that 190 of them would welcome greater bond house cooperation in their various financing operations. The volume of these coming operations is foreshadowed by the series of "Cities Report Post-War Plans" surveys which ran in THE AMERICAN CITY from November 1942 until May 1945. Many of these projects will be financed by revenue bonds.

Idlewild

AT ONE extreme of the national airport program is the 1,500-foot sod-covered landing strip urged as a minimum for small communities. At the other end is Idlewild, New York's new vast airport, literally rising from marshlands of southeast Queens Borough. In what is said to be the world's largest dredging job, 41,000,000 cubic yards of sand were sucked from the bay and placed ten feet deep on the average over 3,000 acres, perching Idlewild nine feet above mean high tide. Fill and grading of the site has been completed and concrete paving and electric conduits are being installed. Because of the location, drainage was the principal problem, and the pipe varies in size up to 18 to 20 lines of 72-inch reinforced concrete pipe. To place it, as much as 1,200 feet of well-points were installed at a time, 6 to 8 feet apart and 20 feet deep.

The winds vary from prevailing 15 miles an hour from the southwest to the 86 miles attained by a tropical storm on July 17, 1945. To prevent erosion, beach grass is being planted by machine over 2,000 of the 3,000 acres of the first section. This tractor-drawn machine is said to be the first beach grass planter. Eight men ride it, three passing the 12- to 15-inch stalks of grass to the four men planting on 18-inch centers. Below each planter a small plow makes a furrow. The stalks are placed and the plow covers the furrow. The crew planted 4 to 5 acres per eight-hour day during July and August of this year.

The first three concrete runways of 7,500, 8,200, and 10,000 feet are scheduled to be completed before November. Then the concrete block temporary building and two hangars will be erected. The eventual total cost of the project will be $200,000,000, and Mayor F. H. LaGuardia foresees 900 flights daily by 1950. Should this come to pass, the ninety airports discussed for the New York area may begin to become a reality and similar airport activity will surge throughout the country. Of prime essence to the success of full scale aviation, however, will be the thousands of sod-covered landing strips and the thousands of air parks in small communities.

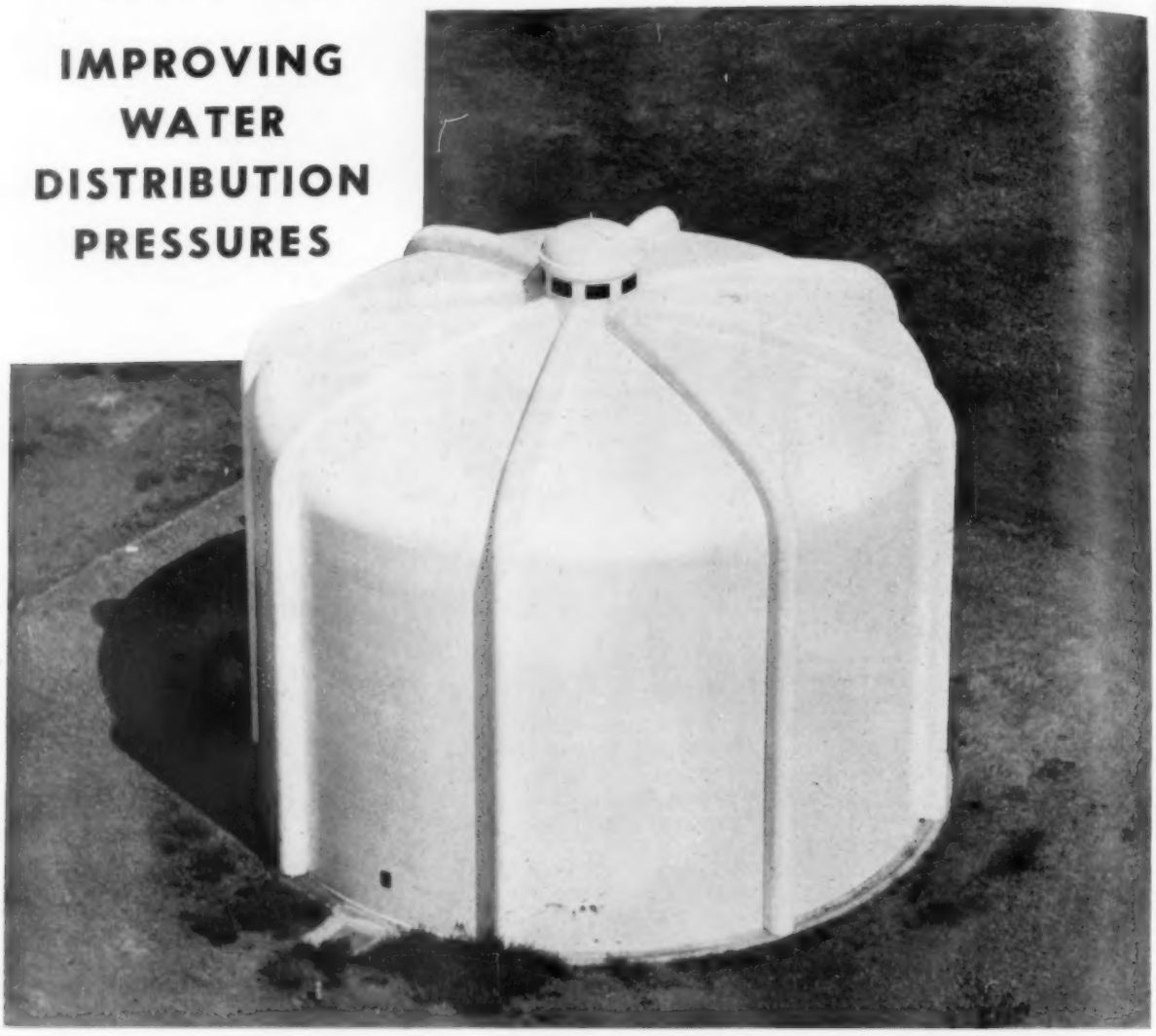
Why Should Street Lighting Be Free?

FROM time to time this magazine has urged private power companies to cease regarding street lighting as a "hot proposition" and sell it as a valuable service to the public. Some companies do this. Those that do not must either want favors or fear attacks on commercial and residential rates.

During the depression, in the early thirties, the Ohio Public Service Company continued to furnish street lighting to cities which were not paying their bills. The reported result is that free street lighting is now being demanded as a policy in contract renewals. The club used is a threat to survey commercial rates and demand their reduction.

Obviously here is a situation calling for specific facts both from the power industry and from the cities involved before sound opinion can be expressed. It appears unlikely that any local government would resort to hold-up methods to keep from paying a legitimate charge. If the charge for street lighting is not warranted, there could be something odorous in the environment. If electric rates are too high, they should be reduced by the company either voluntarily or by order of the utilities commission. There is no reason why cities should accept free products from any vendors, or expect unreasonably low rates or prices for electric energy, gasoline or any other products. Such practices are an invitation to perfunctory service and deteriorating municipal operations.

TULSA UTILIZES TOPOGRAPHY IN IMPROVING WATER DISTRIBUTION PRESSURES



A FEW years ago, when Tulsa, Oklahoma required additional storage facilities in its water distribution system to provide adequate pressure in the Southeastern portion of the city, the topography was utilized and the 2,500,000-gal. reservoir shown above was installed. In addition to helping solve the pressure problem, the reservoir is a beauty spot and a lasting monument to the water works engineers and municipal officials who recommended its installation.

This reservoir at Tulsa is tangible evidence of our ability to help engineers and those who plan water distribution systems to meet the requirements of utility and attractiveness in one unit.

In addition to reservoirs (flat bottom steel tanks) we also design, fabricate and erect Horton elevated water storage tanks with radial-cone and ellipsoidal bottoms, cone or ellipsoidal roofs and Waterspheres. If you are planning extensions or revisions in your water distribution system, investigate our ability to provide the kind of water storage facilities that will meet both present and future needs.

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Houston 1.....5601 Clinton Drive
Tulsa 3.....1625 Hunt Bldg.
New York 6.....3308—165 Broadway Bldg.
Cleveland 15.....2236 Guildhall Bldg.

Chicago 4.....2127 McCormick Bldg.
San Francisco 11...1233-22 Battery St. Bldg.
Philadelphia 3...1616-1700 Walnut St. Bldg.
Los Angeles 14.....1403 Wm. Fox Bldg.
Washington 4.....703 Atlantic Bldg.

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PENNSYLVANIA

Water Works

Water Works Planning

KENNETH V. HILL of Greeley and Hanson, Consulting Engineers, reports the following plans for water works for post-war construction.

Negaunee, Mich.—Water filtration plant and pumping station—1.5 M.G.D. Capacity—plans and specifications now ready—estimated project cost $150,000.

South Haven, Mich.—Studies now being made on arrangements for enlarging the existing filter plant and for a new intake.

Texas Meter Repair School

THE THIRD Texas School for water meter repairmen, conducted by the Texas Water and Sanitation Research Foundation, in cooperation with Texas A & M College, State Board of Vocational Education, and the city of Houston, was held in the meter repair shop of the Houston City water works July 9th to 14th, inclusive.

W. E. Pebworth

The school opened at 8 a.m. under the direction of the instructor, W. A. Bandy, engineer and educator of Austin. During the school term each student received instruction and worked for a considerable period of time on each operation, such as disassembling, cleaning, repairing parts, reassembling, and testing.

The value of accurate testing, particularly at low flows, was stressed and each student used the new ten meter gang test bench for making tests of one quarter gallon per minute. Instruction was also given in the keeping of meter repair and test records.

Egmont Smith

The Foundation Committee on Training of Personnel in Meter Practice is composed of Homer A. Hunter, Assistant City Manager, Dallas; Frank N. Baldwin, Director, Water Department, Houston; W. E. Pebworth, Dallas; and Egmont S. Smith, Chairman, Dallas.

How to Recharge a Ground Water Reservoir

IF you are a bit apprehensive about the way the level of your ground water supply has been falling, here are some ideas that may help you.

A ground water reservoir, like a surface reservoir, can be artificially refilled, or "recharged." This was pointed out recently by K. M. Leggette, Consulting Ground Water Geologist of New York City at one of the New York Section American Water Works Association meetings held at White Plains, N. Y. True, artificial recharging is sometimes more difficult but it may pay big dividends. A ground reservoir, like any other reservoir, has a limited safe yield which is determined by the rate of recharge.

Recharging consists essentially of preparing areas in the vicinity of the wells so that water which might otherwise be wasted can easily percolate into the ground and reach the water table.

In California's Santa Clara county, the procedure is to retain the flood water in detention reservoirs and to divert it after de-silting into stream channels where it percolates underground. By using this method the water table has been raised an average of 50 feet. This recharge is accomplished during the spring months.

In the San Fernando Valley, recharging in basins occurred at a rate of about 2 mg per acre per day with clear water and about 1½ mgd with muddy water. In the Salt Lake Valley of Utah, recharging was accomplished in gravel pits at rates averaging between 3 and 4 mgd for periods of about one month.

East Orange, N. J., uses clover-leafed recharge basins, diverting all but peak flows into the basins to percolate into the underground reservoir.

In Nassau County, Long Island, N. Y., twelve recharging basins comprising about 40 acres are used to dispose of storm water that otherwise would be wasted to the sea. On Long Island ground water used for air conditioning is returned to the ground through recharge wells, thus preventing the waste of about 30 mgd during the cooling season.

Mutual Aid for Water Works

THE New York Mutual Aid Water Supply Program should be of interest to all water works men because of its practicality in assuring that trained personnel and equipment will be available to meet any water supply emergency. At a recent regional meeting of the New York Section of the American Water Works Association, Earl Devendorf, Assistant Director of the Division of Sanitation for the New York State Department of Health and state water coordinator, described the present and future of the program. According to Mr. Devendorf it was a program born of the necessity of war and was designed to maintain or restore water service in the event of either wartime emergency or peacetime catastrophe.

Mr. Devendorf reports that one of the most important features of the program has been mutual aid inventory of water works material available in the participating communities. This list made it possible to send water works equipment from one municipality to another or to a war-connected industry where it was needed, in the quickest possible time.

One feature of the program which should find even wider application after the war is the interconnecting of adjoining water distribution systems to mutually protect each municipality from water supply failure. In many instances during the war the existence of these interconnections proved a means of obtaining water by one municipality from an adjoining supply during emergencies, thus eliminating the possibility of a serious curtailment of water in any one place. Mr. Devendorf recommends that the benefits gained from the program be continued in peacetime so that key trained personnel and equipment will be available to meet any water supply emergency and thus assure at all times a safe and adequate water supply.

A similar program might well be initiated in other states. A manual for the instruction of local water authorities was prepared and distributed when the program was initiated. Copies are still available from the New York State Department of Health at Albany, N. Y., to anyone desiring them.

SMOOTH, ACCURATE WORK... *A "Cinch" with Adams*

● Sound engineering design and rugged mechanical construction are absolutely essential to smooth, accurate blading and scarifying.

These important, necessary characteristics are inherent in every Adams Motor Grader: **(1)** *Balanced Weight Distribution,* assuring always-ample pressures for forcing blade and scarifier into hard materials; **(2)** *Positive-Acting Mechanical Controls,* providing fast, accurate blade and scarifier adjustments; **(3)** *Built-in Rigidity* and absence of lost motion in controls hold blade and scarifier solidly in place.

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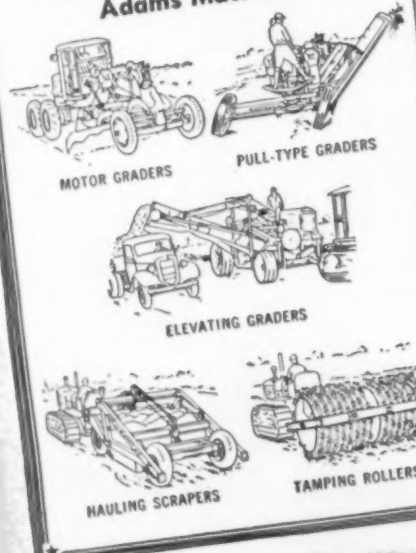

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ROAD-BUILDING AND EARTH-MOVING EQUIPMENT

Streets and Street Maintenance

St. Charles, Mo., Street Construction Planned

OUR POST-WAR construction program may be said to consist in filling the gaps in paving and sewers and the repairing of streets on which work was postponed because of the war," writes Louis J. Hachtmeyer, Street Commissioner of St. Charles, Mo. "These activities are being planned so that they will aid us in the immediate period of readjustment."

Here is a brief summary of the program as planned up to now:

1.	Concrete sidewalk, curb, and gutter *City wide voluntary and special tax bills*	$26,000
2.	Street signs, markers, and signals New or repaired and repainted. Stop and Go automatic signals at necessary intersections. *City wide city funds, possibly bond issue*	2,500
3.	Street Improvements Morningside, West Highlands, Roosevelt addition, and other miscellaneous locations. This includes new streets only; acquiring property, right-of-way, grading, base course, and surfacing. *Bond issue and special tax bills*	25,000
4.	Street repair City wide resurfacing and oiling. *Special tax bills*	15,000
5.	Storm and Sanitary Sewer Extension Lines neeeded to coordinate present system and extend lines into newly acquired additions. *Bond issue*	25,000
6.	Fire Stations Two substations north and south sides of city. *Bond issue*	17,500
7.	Railroad underpasses Under Wabash to connect north end of city with Blanchette Park and Depot Ave. (N. Fifth St.) *Bond issue*	15,000
8.	New Public Park Acquiring land in south end of town and improving same as public park. *Bond issue*	12,000
9.	Public Parking Areas Acquiring property and placing same in condition for use as parking lots. *Bond issue*	5,000
Totals:		
	Bond issues	84,500
	Special tax bills	45,000
	Voluntary contributions	10,000
	City funds	2,500
		$124,000

Surveying and the preparation of plans are under the supervision of C. H. Owens, City Engineer; much of the work will be managed by Louis J. Hachtmeyer, Street Commissioner, and Dr. Homer Clevenger, Mayor.

Highway Proposal for California

THE ESTABLISHMENT of a system of limited-access, urban-rural highways in California is recommended by the California Major Highway Development Committee. It recommends that the proposal be implemented in the following way:

1. That there be created a special fund for expenditure exclusively upon the limited-access system and that a special tax of 1½c per gallon be added to the present motor vehicle fuel taxes for this purpose, and that the State Department of Public Works be instructed to devote portions of federal aid funds and regular state highway funds to the limited-access system.

2. That the limited-access highway fund be apportioned among the counties of the state in the ratio that their motor vehicle registrations bear to the total motor vehicle registration of the state.

3. That responsibility for the acquisition, construction, maintenance, and administration of the limited-access system be vested in the State Department of Public Works.

This new system of modern highways would embrace some 2,700 miles of interstate routes.

In addition to the limited-access highways, some 600 miles of metropolitan freeways have been approved for the seven metropolitan districts of California, allocated as follows:

	Miles
Fresno	17.55
Los Angeles	282.54
Sacramento	42.99
San Diego	52.41
San Francisco-Oakland	156.51
San Jose	24.99
Stockton	23.01

These are the metropolitan districts defined the United States Census Report of 1940.

It is estimated that the proposed system will carry approximately 75 to 80 percent of the total volume of traffic on all rural highways in California and a substantial amount of the total volume of city street traffic.

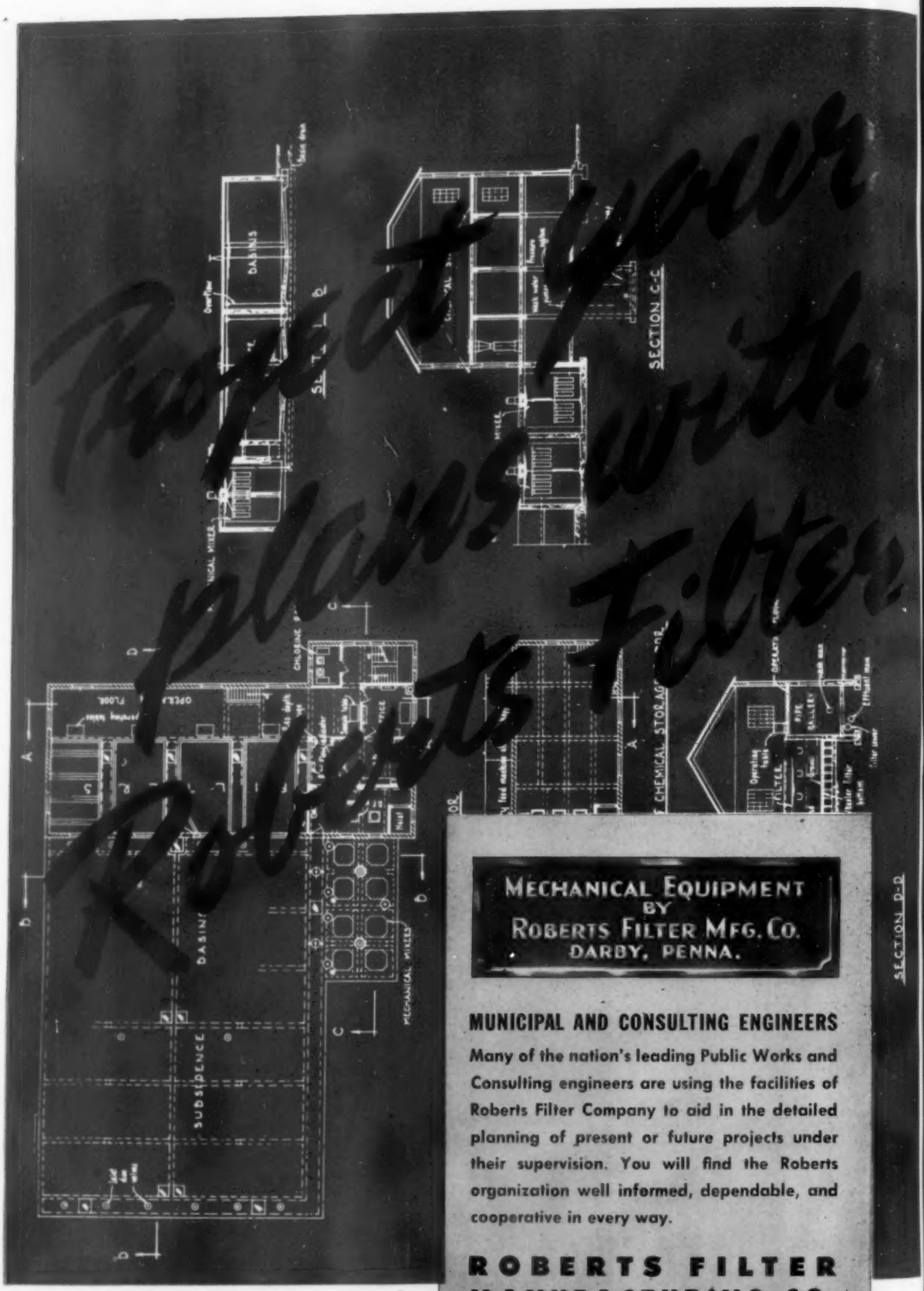
California, perhaps more than any other state in the nation, is confronted with the problem of developing adequate street and highway facilities to meet the impact of future motor vehicle transportation needs.

Correction

"Resourcefulness Keynotes Sioux Falls Street Department" by Bert T. Yeager, Street Commissioner, on page 85 of the August issue of THE AMERICAN CITY, was about Sioux Falls, S. D., not Sioux Falls, Iowa, as was erroneously reported.

Snow Cleaning in Wexford County, Mich.

An Austin Western 99-M Power Grader at work cleaning roads after a snow storm in Wexford County, Mich.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Sewerage and Sewage Treatment

Pennsylvania Attacks the Problem of Stream Pollution

WHEREVER you have communities there are problems of waste disposal which become more complex as the population increases. Pennsylvania's 1,000 incorporated municipalities, as well as its numerous townships and farms, are scattered along the banks of 100,000 miles of waterways which comprise the vast network of streams flowing through that state. Since less than 300 sewage treatment works have been built to serve a population of 10,000,000, millions of tons of untreated sewage are discharged daily into state waters. A similar situation prevails with regard to industrial wastes from coal mines, steel mills, T.N.T. plants, distilleries, and many other industries.

Aside from the obvious fact that streams should be clean, Pennsylvania faces a special problem in that the sources of public water supply in the state are mostly surface streams which must be safeguarded for the protection of the 8,000,000 citizens which draw on these supplies.

Health Department Plans

Since 1905, when the State Department of Health was organized, much progress has been made in the sewerage field, but the Sanitary Water Board believes that much is yet to be done and that this is an opportune time to attack the problem on a state-wide basis. The Board proposes that all sewage, before discharge into state waters, shall receive a minimum of "primary" treatment, consisting of quiescent sedimentation or its equivalent. This would remove 35 percent of the polluting matter. Industrial wastes are to be treated to an equivalent degree and the coal operators have been called upon to cease the discharge of silt to the streams. If conditions indicate the need, complete treatment will be required; the only exception will be made in the case of streams which receive large quantities of acid drainage rendering treatment of sewage of no public value at the present time.

Statewide Hearings to Acquaint the Public with the Plan

The Board, after conducting a series of ten hearings throughout the state for the purpose of acquainting the public with the plan, is inclined to believe that the people of Pennsylvania are convinced of the need for such a statewide program.*

EDITOR'S NOTE: Henry W. Van Pelt, Director, Bureau of Statistics, Pennsylvania Department of Internal Affairs, in the June 1945 Supplement to *The Borough Bulletin*, issued by the Pennsylvania Government Administration Service, discusses various methods of financing sewage disposal projects. It is estimated that about 500 incorporated municipalities will be affected by the stream pollution control program of the Sanitary Water Board. While no exact estimates of the total cost of the planned sewage disposal program are as yet available, it can be assumed that it will amount to 150 million dollars or more. In Philadelphia alone the cost of sewage treatment is expected to be 40 million dollars and in the Pittsburgh area probably 60 millions.

Several methods of financing such projects are suggested, the most obvious of which is the issuance of general obligation bonds. Where the net debt exceeds two percent of taxable valuation, the issuance of such bonds requires approval by the electorate. Under the Constitution of Pennsylvania the net debt of any local governmental unit is limited to seven percent of taxable valuation.

Another method is the issuance of revenue bonds, a charge being imposed upon property owners in the form of sewer rentals. Borrowing for a self-liquidating project of this kind need not add to the burdens of real estate taxation, if charges made for sewage services are passed on by a real estate owner to the tenant.

Municipalities which have accumulated surpluses during the war can use such funds to defray the cost of new sewage plants or at least to reduce the amount of borrowing required. Financing improvements of this type through a municipal authority has the advantage of keeping sewage costs distinct from other governmental expenditures which must be met by the tax levy on real estate.

* From a paper presented by Dr. A. H. Stewart, Secretary of Health and Chairman of the State Sanitary Water Board, Harrisburg, Pa., at the 17th annual meeting, F.S.W.A., Pittsburgh, Pa., October 13, 1944.

Sewage Disposal Problem Solved at Hawthorne, N. J.

THE BOROUGH of Hawthorne, N. J., in need of greater sewage treatment capacity, found that two solutions were available to solve the problem; either the existing plant could be enlarged or a connection could be made with the Passaic Valley Sewerage Commission's main intercepting sewer. After both propositions were considered by Commissioner of Public Works William F. Fairhurst and other Borough officials and engineers, the latter method was chosen as the most suitable solution.

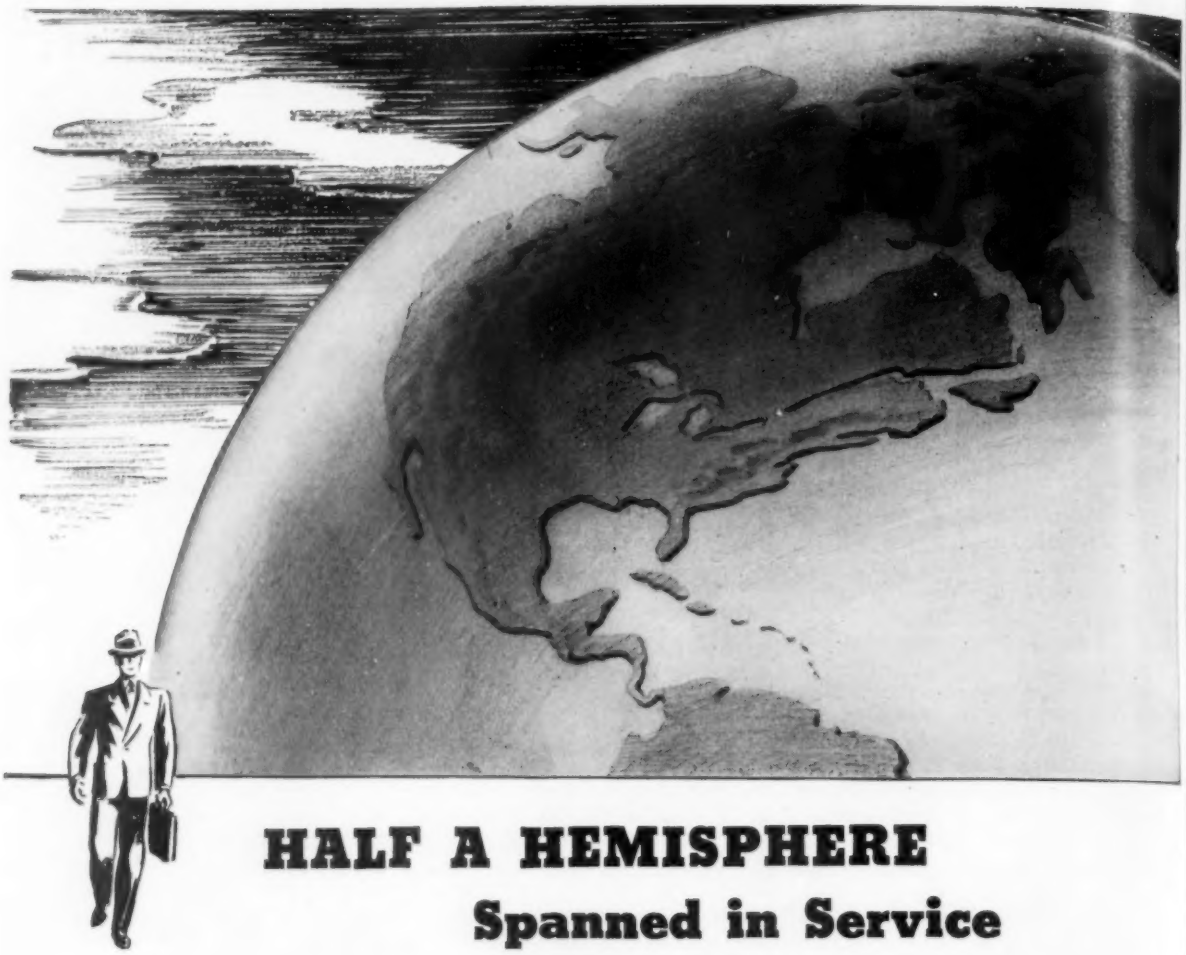
The Hawthorne treatment plant on the north bank of the Passaic River is directly opposite the large main intercepting sewer of the Passaic Valley system. The line as constructed intercepts the existing Hawthorne sewer lines ahead of the treatment plant, with a 24-inch gravity line, composed of asbestos cement pipe encased in reinforced concrete, running a distance of about 1,400 feet to an upper siphon manhole on the north bank of the river. Two cast iron siphons, 14-inch and 16-inch in size, carry the flow under the river to the lower siphon manhole on the south side of the river.

After the cast iron siphon lines were completed they were given an air test of 40 psi, a much greater pressure than that under which they will operate.

Plans and specifications were drawn by Clyde Potts, consulting engineer of New York; the resident engineer was Wesley Gavett representing the consultant, and George Sisco was resident Borough inspector.

Equipment used for dredging trench in laying the sewer siphon under the river.

Calking of joint after pouring on the dual sewer siphon.



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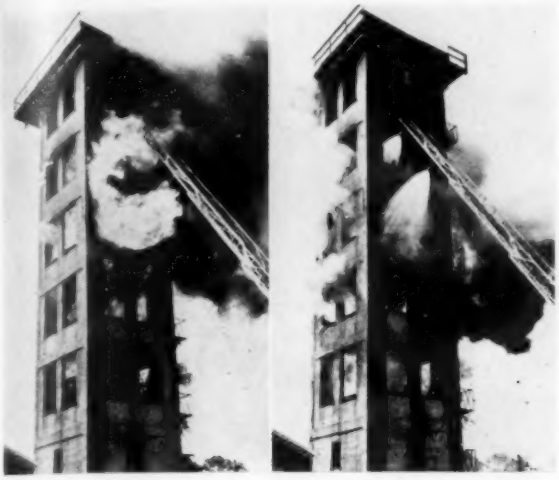
Public Safety

Water Fog Demonstration at New Haven



A gasoline fire was ignited on the fourth and fifth floors of the New Haven Drill Tower during demonstration. LEFT: *the fire at its height, and* RIGHT: *fire under control thirty seconds later. Two monitor fog heads mount on ladder pipes, one on the top rung of a steel ladder and the other twelve feet below extinguished the flame.*

CHIEF Paul Heinz, New Haven, Conn., Fire Department, was host to some 500 fire chiefs, firemen, and fire protection engineers on July 18 when his department demonstrated techniques in extinguishing fire with large-capacity turret nozzles, ladder pipes, and mobile hand lines. The New Haven Fire Department has developed techniques for the use of modern large-capacity fog equipment and every man is trained in its use. Demonstrations included a comparison of conductivity of electricity in streams, using both water fog and solid streams, against 11,000-volt high tension lines; the use of mobile fog streams and applicators in controlling various types of flammable liquid fires including oil burners, pits, transformers, and elevated tanks; and fog type equipment for cellar fire fighting. The men showed the effectiveness of two 500 gpm fog nozzles of a turrent truck which extinguished fires lighted simultaneously in the various pits and testing apparatus. The equipment used was manufactured by the Rockwood Sprinkler Company of Worcester, Mass.

The New Haven Fire Department has used water fog on many occasions. The biggest fire was in a railroad gasoline tank car and cost $51,000.

Emergency Vehicles

TO BE classed as an emergency vehicle, a siren must be sounded and a red light displayed on the front of the vehicle, says the Los Angeles Police Department. It then gives this advice to the public: "Stay out of jail by giving way to a siren's wail."

Six Hundred of El Paso's 625 Parking Meters Working After Ten Years

THE City of El Paso is expected to show 1,000 percent profit from its parking space vending system for the ten-year period ending December 31, 1945," says the *El Paso Texas Times*, "and Police Department officials expect there will be plenty of buzz left at that time in the 600-odd parking meters clicking away along city curbs, retailing parking at the rate of 5¢ an hour in the congested urban area."

Five hundred Dual meters went into operation January 1, 1936, and 125 more in 1937. They paid their cost plus 15 percent for the city during the first year of operation. City jail trustees supervised by a department official collect the coins and rewind the meters.

The meters cost $46,000 and total collections are expected to exceed $400,000 by the end of 1945, according to City Auditor Glenn Daniels. Of the original installations, 600 meters are still in operation. Revenues during the last four years have been as follows:

1941	$48,187
1942	45,488
1943	45,221
1944	48,953

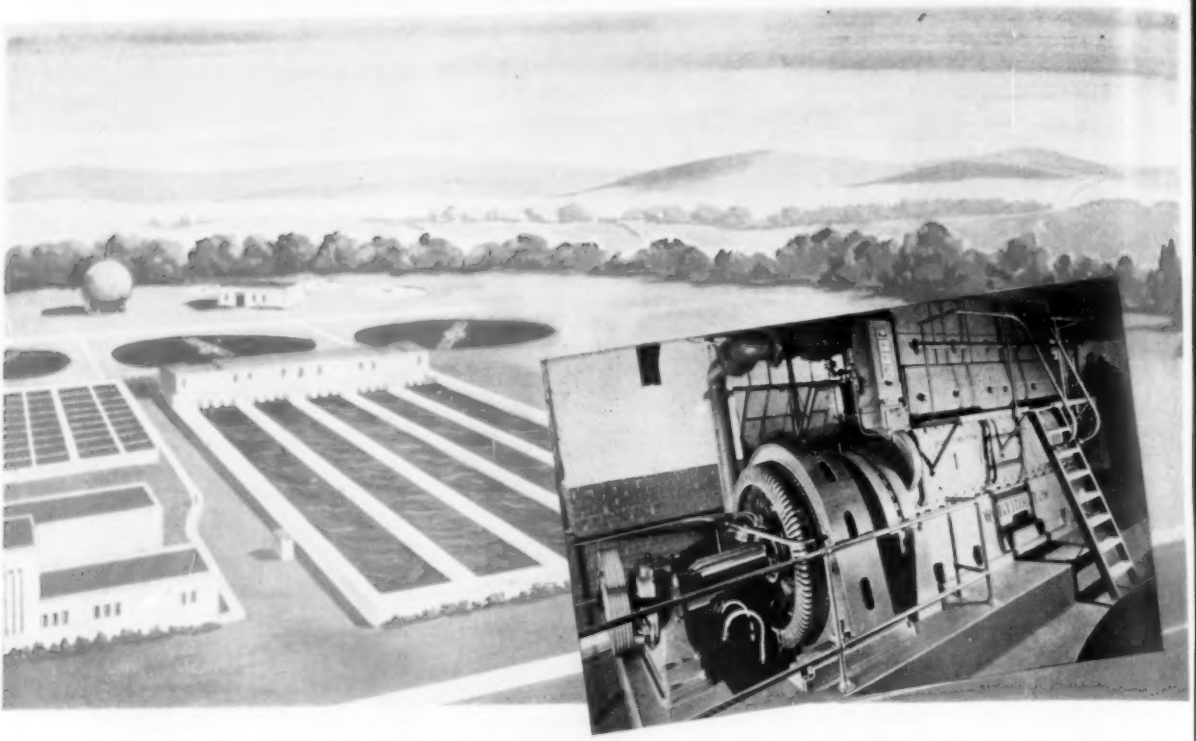
The annual revenue pays 23 percent of total police expenses.

Fire Prevention Week

PRESIDENT Truman has designated the week beginning October 7 as National Fire Prevention Week, and urges the cooperation of all citizens and civic fire fighting units in eliminating fires and fire hazards.

The 450 truck drivers of Detroit's Department of Public Works are under a cooperative training program which includes skill tests, actual road tests, and a conference and lecture on safety at which slide films are shown. This photograph shows some of the equipment used in testing. From left to right: (1) a driver testing his ability to estimate the distance between himself and an obstruction or sign; (2) testing to determine which eye is stronger as a check on weakness of vision at intersections; (3) the speed of foot reaction is checked by an observer as a driver responds to flashed signals; (4) a special device indicates the ability to read or see under strong glare. Equipment for these tests was made by the Department of Public Works Central Maintenance Division according to specifications of the American Automobile Association.

PAID FOR THEMSELVES



In 3 Years, Savings with Worthington Gas Engines More than Paid for the Cost of Entire Engine Plant

In Sioux Falls, South Dakota, two Worthington 6-cylinder gas engines were installed in 1941, taking the place of motors for driving blowers previously used in the Sewage Treatment Works.

In the first year, these gas engines saved $24,000. In three years, this saving had more than paid for the complete engine plant.

The quality of Worthington Gas Engines is based on continued pioneering. Worthington has taken a prominent part in developing economical power for many municipal sewage plants — such as Coney Island, Peoria, Cedar Rapids — turning a formerly wasted by-product into a profitable fuel. Write us for additional evidence that *there's more worth in Worthington. Worthington Pump and Machinery Corporation, Engine Division, Buffalo, New York.*

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Vol. LX, No. 9 **The American City** September 1945

The Cities' Job—Now That the War Is Won

When the surrender of Japan was assured, The American City telegraphed to the heads of ten federal departments and agencies in Washington, requesting brief statements as to how, in their opinion, mayors, city managers, and other municipal officials can best cooperate in post-war problems with which these federal officials are especially concerned.

Eight replies are here published. Among other timely features of this issue are replies to an inquiry addressed to the executive directors of four national organizations of municipal and city planning officials, requesting special statements as to the cities' job, now that the war is won.

FWA in the Reconversion Period

By PHILIP B. FLEMING
Major General, U. S. A.
Administrator, Federal Works Agency

THE Federal Works Agency is rapidly reconverting from a war basis to a peacetime basis. This means the speedy termination of Lanham Act war-connected public works construction and greater emphasis on assistance in planning needed state and local public works.

All allotments made for non-federal Lanham Act construction projects for which contracts have not been approved will be rescinded. Projects on which contracts have been awarded, for which the federal grant represents or exceeds 75 percent of the allotment, although construction may be under way, will be re-examined and action leading to continuation or suspension will be taken in cooperation with interested federal war agencies and concurred in by the owner. Certain non-federal projects may be continued to completion if a written request for such continuation is submitted to the Division Engineer of the FWA Bureau of Community Facilities by the applicant, stating that the projects will serve a useful purpose and agreeing to provide any additional funds that may be needed as well as all funds required for their maintenance and operation.

Federal Assistance for Schools and Hospitals

We will continue to approve allotments where needed in congested areas for assistance in the maintenance and operation of schools during the present school year. Allotments already approved for the maintenance and operation of general hospitals, recreation programs, and miscellaneous municipal services will be extended to October 31 in areas where the war impact was such as to require continuation until that time.

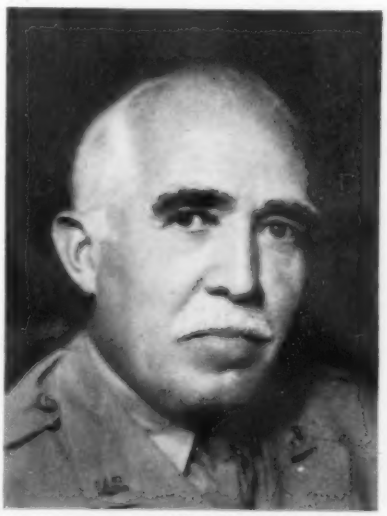
Federal assistance for child-care programs will be terminated as soon as possible, and in any event by October 31.

Although the shooting is over, many communities that have been overcrowded during the war are likely to remain congested for many months to come. Municipal officials, therefore, should take steps at once to find additional state and local revenues for the financing of schools and the maintenance and operation of necessary community facilities after the authority of FWA to assist under the Lanham Act expires.

Funds Available for Planning Local Public Works

Of the $17,500,000 appropriated for assistance in the advance planning of needed state and local public works, some funds are still available for allotment. An additional appropriation will be requested of Congress.

Applications for advances for planning should be made to the appropriate Division Engineer. I suggest that particular attention be given to the planning of projects that serve to stimulate private investment. Such projects are street, sewer, and water projects servicing new housing devel-



PAN AMERICAN PHOTO SERVICE

Philip B. Fleming

opments, or encouraging industrial construction.

Educators generally expect a large increase in college enrollments as returning war veterans take advantage of the educational provisions of the G.I. Bill of Rights. In many instances, tax-supported institutions, such as state universities and municipal universities, junior colleges, and vocational schools, will not be able to meet the demands upon them without an expansion of their teaching facilities and the provision of housing for the new students. Plans should be begun at once to meet this situation.

How Municipal Officials Can Aid

In my opinion, state and municipal officials can best contribute to an orderly transition to peace by bringing their construction plans to completion as quickly as possible, and by being prepared to let contracts just as soon as financing can be arranged and materials obtained, especially where unemployment may be increasing.

Department of the Interior Offers Special Aid to Municipalities

By HAROLD L. ICKES
Secretary of the Interior

THE best opportunity for mayors, city managers, and other municipal officials to cooperate in post-war problems with which the Department of the Interior is concerned lies in the fields of water supply, public power, and recreational facilities. Throughout the nation, the Geological Survey, the National Park Service, the Fish and Wildlife Service, the Bureau of Reclamation, the Bonneville Power Administration, the Southwestern Power Administration, the Division of Power, and the Bureau of Mines are all concerned with post-war projects in which municipalities could cooperate to their advantage.

Low-Cost Power Available

Since 1906, preferences to municipalities and other public bodies with respect to the advantages arising from the generation and transmission of electric power produced at projects under the jurisdiction of the Secretary of the Interior has been assured by law. Section 5 of the Flood Control Act of 1944 is the most recent expression of Federal policy in this respect. Under this act, excess power produced on projects under the jurisdiction of the War Department is to be marketed under the direction of the Secretary of the Interior. This law declares that the Secretary "shall transmit and dispose of such power and energy in such manner as to encourage the most widespread use thereof at the lowest possible rates to consumers consistent with sound business principles, the rate schedules to become effective upon confirmation and approval by the Federal Power Commission." Thus the power resources owned by the people as a whole are made available at the lowest rates to all consumers. Municipalities may cooperate with the agencies of the Department of the Interior by the purchase of low-cost power made available at the federal projects under its jurisdiction.

WORLD WIDE PHOTO

Harold L. Ickes

Water Supplies and Recreational Facilities

Much is to be gained by cities in the western part of the United States from studying proposals for a $5,000,000,000 post-war construction program by the Bureau of Reclamation, Department of the Interior.* In addition to low-cost electrical energy, low-cost municipal water supplies, and recreational facilities at reservoir sites are among the benefits which can be obtained by cities not too distant from the more than four hundred projects proposed to be constructed by the Bureau.

From reservoirs water supplies may be made available to cities and towns at a rate which reflects cost plus interest upon the unamortized investment at a rate of 3½ percent per annum.

Active interest on the part of a city in the possible development of recreational facilities at nearby reservoirs will be helpful to the Department of the Interior, including such facilities available at an early date after construction is completed.

It should be remembered also that such cities as Salt Lake City, Boise, and Yakima have grown out of the development of agricultural regions dependent almost entirely upon irrigation.

The mineral inventory of the United States, which has been proposed by the Bureau of Mines and the Geological Survey in order to ascertain what minerals remain available in this country despite the heavy demands upon these resources by the war, should be of interest to many municipalities.

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* A list of the 415 proposed post-war projects of the Bureau of Reclamation, showing whether the construction of each was suspended by action of the War Production Board, whether it was approved by the Congress, or whether it is a proposal still to be laid before the Congress, is to be found on pages 31 through 61 in the hearings before the Committee on Irrigation and Reclamation of the House of Representatives, Seventy-Ninth Congress, first session, on H. R. 520, a bill relating to the settlement of returning veterans on farms in Reclamation projects.

Faith, Tolerance, and Cooperation Needed to Solve Veterans' Problems

By O. W. Clark
Assistant Administrator
Veterans Administration

The veterans' problems are those which every other American citizen may have during the period of readjustment from war to peace. These may all be solved if all of us who are public servants discharge efficiently the sacred responsibilities which have been assigned to us. Faith, tolerance, and cooperation must be our peacetime weapons.

From War to Peace—Challenge And Opportunity

From a report submitted August 15, 1945 to President Truman

By JOHN W. SNYDER
Director
Office of War Mobilization and Reconversion

OUR total victory over our enemies was the inevitable and just product of our total mobilization for war. The same energies, the same skills, the same cooperation that won the war must now be directed toward the winning of a total and stable prosperity in peace.

The outlook for this peacetime victory is bright, but it will not be won easily nor immediately. There should be no mincing of words. The sudden termination of the major portion of war contracts will cause an immediate and large dislocation of our economy. Our nation will undergo the shock of considerable but temporary unemployment. The severity of this shock is increased by the sudden ending of the war. . . .

Four Major Objectives

Only a peacetime production, vastly expanded over anything this or any other nation has ever seen, will make possible the attainment of the four major economic objectives which face us in the months ahead. These objectives I conceive to be:

1. Jobs for all those willing and able to work
2. A steadily rising standard of living
3. Stabilization of our economy to avoid disastrous inflation or deflation
4. Increased opportunities for farmers and business men.

In fact, the urgent need to increase peacetime production is the keystone of all the government's economic policy and planning. Every step taken by the Office of War Mobilization and Reconversion, and every policy and action of the agencies which this office coordinates, is oriented to this central goal. . . .

Now we no longer have any major war requirements to prevent our energies being directed toward peacetime prosperity. The moment of great challenge and opportunity is here. . . .

We are not going back to long periods of mass unemployment. Labor is determined, businessmen are determined, farmers are determined, the man in the street and his government are determined, that we shall put our productive capacity to work producing goods and services for peace. And we shall need these goods, for we have a pent up demand at home and abroad that together will tax for some time our capacity to produce. . . .

Inter-Agency Committee on Construction

The Office of War Mobilization and Reconversion has created an inter-agency committee on construction under the chairmanship of a construction coordinator [Hugh Potter]. This committee is taking steps to speed the revival and expansion of the construction industry. In addition, the National Housing Agency and its operating units will act promptly to stimulate expansion in new housing construction to relieve existing housing shortages and to provide jobs, production, and investment in the reconversion period we now embark upon.

John W. Snyder

To Aid in Speedy Re-Employment

By PAUL V. McNUTT
Chairman
War Manpower Commission

THE toll of the war from which we have just emerged victorious has been enormous in human blood and anguish. Victory was costly, whether reckoned in the invaluable currency of men's lives or in the hard coin of dollars and materials. But war at least taught us this: that we are still a young and virile nation; and that when the nation's entire manpower is mobilized we can accomplish miracles of might that astonish the rest of the world.

All of us are hoping today that the lessons we learned during the war may serve us during the peace. The war has provided government through the United States Employment Service with a national wealth of experience and information regarding labor markets, which might have required many peacetime generations to develop. It took a national emergency to teach us the need for a closely coordinated system of facts and figures on employment.

Today the United States Employment Service has developed a method of quickly assembling facts and figures which will show how many persons are employed in local areas, how many of the labor force are men and how many women, and other vitally necessary details. Furthermore, we are now able to predict, from two to four Mondays in advance, just what the labor de-

Paul V. McNutt

mands will be, area by area in major industries, and we can break those future demands down into important categories. These estimates come from the records of the employers in the community, and they would be absolutely unobtainable without the facilities of a nation-wide, closely integrated, free employment service. This service not only exists, but will continue to be available throughout the reconversion period. All segments of the community will find it valuable—management to aid in reconversion, employers in finding workers, labor in finding jobs, veterans in choosing peacetime occupations, business and civic groups in planning new industries and a new future for their communities.

Mayors, city managers, and other municipal officials will find many other services available in their community through state and local offices of the United States Employment Service. Among these services are assistance in matching wartime skills with peacetime occupations, a better utilization of workers, apprentice training, occupational analysis, counseling, interviewing, and the placement of veterans. City officials planning the orderly conversion from a wartime to a peacetime economy will find in their local United States Employment Service office a community job center and a skilled staff which now has been placed on a reconversion basis, ready to serve them as they join with management, labor, and government in the effort to bring about lasting full employment.

Setting and Meeting Housing Goals

By JOHN B. BLANDFORD, JR.
Administrator, National Housing Agency

HOUSING is a community job. It is up to the communities to set their own housing goals and see that those goals become realities.

We have estimated that 12½ million new homes will be necessary in the first ten years of peace to take care of our returning veterans, new families, families now living "doubled up," and to make substantial progress toward replacing our clearly substandard housing. The dimensions of that challenge are so much greater than our past accomplishments that they clearly make imperative a unified, coordinated, wholehearted effort in our communities, in industry, in labor, and in the state and federal governments.

John B. Blandford, Jr.

We believe that an essential preliminary to planning and action on a full-scale post-war housing effort is to inventory our resources, check on our organization for the production and financing of housing, and appraise our existing legal machinery for the assistance and supervision of housing.

Three Basic Premises

We believe that this inquiry should proceed in accordance with three basic premises:

First, the primary responsibility for housing plans and programs rests with our communities and local governments.

Second, within our communities there should be maximum reliance upon private enterprise to meet as much of the housing need as possible.

Third, the role of the federal government in housing is to extend the supplementary assistance needed and desired to help communities progress toward the goal of good homes, in good surroundings for all American families.

Local Surveys Needed

It seems to us that the first step toward this goal must take the form of a local inventory of housing conditions and needs. It should be carried out by a local official agency and the study should include the needs of low-income families and racial minorities as well as others. It should clearly distinguish between the need for homes for rent and those for owner-occupancy.

Such a survey should also include an evaluation of the existing housing supply in the terms of sound housing standards—the number of good houses, those suitable for repair and improvement, and those which should be demolished. Against the background of what is determined to be the supply of good housing and that which can be made good, the new housing needs of families of all income groups should be estimated.

Furthermore, the types of areas in the community need to be defined as to those which should be cleared, rebuilt, or used for other purposes; conservation areas where rehabilitation can stop the trend toward blight or slums, and stable areas which can be depended upon to remain standard with proper care.

As pointed out in a recent pamphlet* of The National Housing Agency, slum clearance and urban redevelopment can be effective only when they are a part of an over-all community plan. Such studies will make it possible to encourage private builders to expand their operations and to plan for such public housing as may be necessary to meet the needs of income groups which private enterprise cannot serve.

Local communities should also study their building codes to see that they are modernized in line with the best building practices and encourage the use of new construction methods and new materials. Zoning ordinances also should be examined to determine if they are in harmony with the community's over-all needs for future development.

Housing for Veterans Is an Immediate Challenge

One of the most immediate challenges facing hundreds of our communities at the moment is that presented by the families of our returning veterans and of men still in service. While the G.I. Bill of Rights extends aid to veterans in building or buying homes of their own, real estate and building prices are high. Many veterans are uncertain whether they will make their permanent homes in the communities where they now reside and, moreover, many of them do not have income sufficient to enable them to buy or build homes.

No community can afford to neglect the needs of veterans and service families. The necessity for action is immediate and calls for the cooperation of every type of civic organization.

* "Housing: A Community Job"—see AMERICAN CITY for August 1945, page 105.

WPB's Objectives; How Local Officials Can Help

By J. A. KRUG
Chairman, War Production Board

THE War Production Board is taking vigorous action to speed-up reconversion, and to reach the goals of abundant employment opportunities and full production, as rapidly as possible and, at the same time, provide the best cure to inflation.

The changes WPB is making are designed to accomplish these major objectives: (1) to retain, and strengthen where necessary, those controls needed to combat hoarding, pre-emptive buying, buyers' scrambles for scarce materials, and inflation; (2) to remove the remaining and now out-moded, wartime restrictions as rapidly as possible, and (3) to give positive assistance to reconversion by taking vigorous steps to increase production of those few things that still remain in scarce supply; by encouraging manufacturing plant expansion to create new, continuing jobs; by breaking bottlenecks; and by protecting smaller business to the extent found necessary.

Through its field offices the WPB will aid industry in breaking bottlenecks that hamper expanded production. The Board urges that the industrial, business, and labor groups in each city cooperate in catching up on maintenance of city services and in resuming urgently needed developments held in abeyance during the war. Due to shortages of building materials, projects that are not really urgent should be deferred for a term until supplies more nearly match the demands.

Local communities know their own needs for facilities promoting public health and safety, extension of streets and highways, water and sewage systems, bridges and their approaches, and so on. They are working on problems of job creation, invitation to new business, the encouragement of small business men, and help in establishing returned veterans in business and in occupations. While these are their immediate problems, they are deliberating on long-term projects of municipal development that will be of great value in providing jobs later on.

The emergency of change-over from war to civilian employment will be relatively brief. The current dip in jobs will be short-lived as the pressure of demand, backed by ample purchasing power, is felt by a vigorous expanding manufacturing industry. The growing volume of civilian goods and services, for which production materials are now in easy supply, will make new jobs. Pipe-lines of supply are being filled, thus solving many local problems.

Now is the time to get the long-range plans of municipal building and development in shape. They may be meshed in with the programs of state and national public works and road building. It would be well to complete plans and specifications at once for urgent maintenance and new construction that have awaited the end of the war. Be prepared, but do not build until scarce materials are in sufficient supply in your community.

J. A. Krug

Department of Labor Invites Municipal Cooperation

By L. B. SCHWELLENBACH
Secretary of Labor

SO that there may be a sound foundation of statistical information upon which to build this country's post-war labor policy, the Department of Labor is rapidly strengthening its reports on employment, payrolls, wages, prices, and construction activity. This vital information is collected by the Bureau of Labor Statistics from employers, stores, households, and from the city governments themselves. The collecting is done wholly upon a cooperative basis, without compulsion of any sort.

Mayors, city managers, and other city officials can give valuable cooperation to the Department in at least four ways:

First, by supplying us with the information on building permits for the city, promptly and completely, as requested;

Second, by encouraging public support for our effort to obtain prompt information from the various private enterprises in the community;

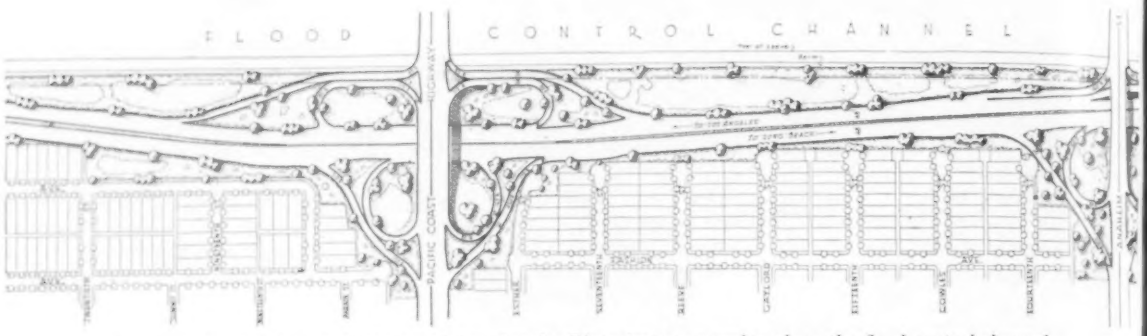
Third, by maintaining close contact with the Department's nearest regional office so that knowledge may be had of the information we need and the findings we have that are worthy of local publicity; and

Finally, by letting me know from time to time of those problems affecting labor of greatest local concern.

Some temporary unemployment in the reconversion period is unavoidable and the seriousness of the problem will vary from city to city. We intend to obtain and publish a balanced national and local picture of these changing conditions, including the pick-up in employment as it occurs. By these means our national and local policies can be cemented together with a sound body of reliable facts.

L. B. Schwellenbach

Los Angeles County Is Ready with Limited Access Highway Plans



A section of a drawing of the proposed Los Angeles River freeway running along the flood control channel

By ARTHUR H. ADAMS
Acting Chief Engineer
Regional Planning Commission
County of Los Angeles, Calif.

THE LOS ANGELES County Regional Planning Commission has planned a comprehensive system of limited access highways (freeways, parkways, and expressways) based on data collected just before the war to meet the imperative need for relief from traffic congestion on the streets and highways of Los Angeles metropolitan area. The various governmental engineering and planning departments of the affected area cooperated in the preparation of this plan. The project is designed to provide for the traffic needs over a considerable period of time, and the sequence of construction will be determined by the urgency of need.

About thirteen miles of freeways shown on the plan have already been completed. Detailed plans are being prepared for several additional miles to be constructed as soon as funds are available.

One of the most urgently needed freeways is the one planned to follow closely the course of the Los Angeles River Flood Control Channel from the San Fernando Valley to Long Beach Harbor and to be called the Los Angeles River Freeway. While in the past considerable sums have been spent on major highways leading toward the coast at Long Beach, commercial development bordering these thoroughfares has caused such a degree of congestion that they no longer absorb the traffic adequately. Hence there has been a demand for a highway which will be free from all of the impediments of a city street.

It is believed that the proposed Los Angeles River Freeway may be constructed at a minimum cost, since a major portion of it will run immediately along side the flood control channel, thus making it possible to use some land now owned by the county. Moreover, the land adjoining the channel is largely undeveloped and therefore not costly in comparison with that along the other routes proposed.

Few Traffic Interchanges Planned

Through cooperation of land owners and subdividers many acres of land have been set aside for freeway use or have been improved in such a manner as to facilitate acquisition. For reasons of economy, the present highway plan calls for a minimum number of crossings over the river channel, so that there will be few traffic interchanges on this freeway.

The first unit of this freeway to be constructed will probably be the section between the proposed Santa Ana Freeway and the harbor, in order to facilitate the movement of traffic going to and from the business and harbor districts of Long Beach.

Mr. S. V. Cortelyou, District Engineer of the California Department of Public Works, informs me that the work on the Terminal Island Freeway will not start in September as originally intended, but he expects construction to begin around the first of November if the Navy adheres to its plan.

He also reports that the Navy planned to advertise for bids on October 1 for the construction of the lift span bridge which is to carry the free-

The proposed Los Angeles River and Terminal Island freeways can be seen on this map

way traffic across the Los Cerritos Channel. This was a change in plans to allow construction of the bridge before the end of the war and will facilitate completion of the Terminal Island Freeway between Willow Street, Long Beach, and Terminal Island. The decision by the Navy was presumably occasioned by the increased activity in the Pacific and the desire to make the Terminal Island Navy Base more accessible to the mainland.

Right-of-Way Already Acquired

The city of Long Beach has already acquired thirty-five acres of right-of-way for the southerly end of the Los Angeles River Freeway and has incorporated provisions for interchanges with the freeway in its current plans.

Along with the tremendous increase in population which is expected for the metropolitan area will come increased use of the highways and increased pressure for relief from highway congestion. This plan for a system of expressways will not only fill that need, but the construction of these freeways will also provide employment for many workers on projects of lasting benefit to the community.

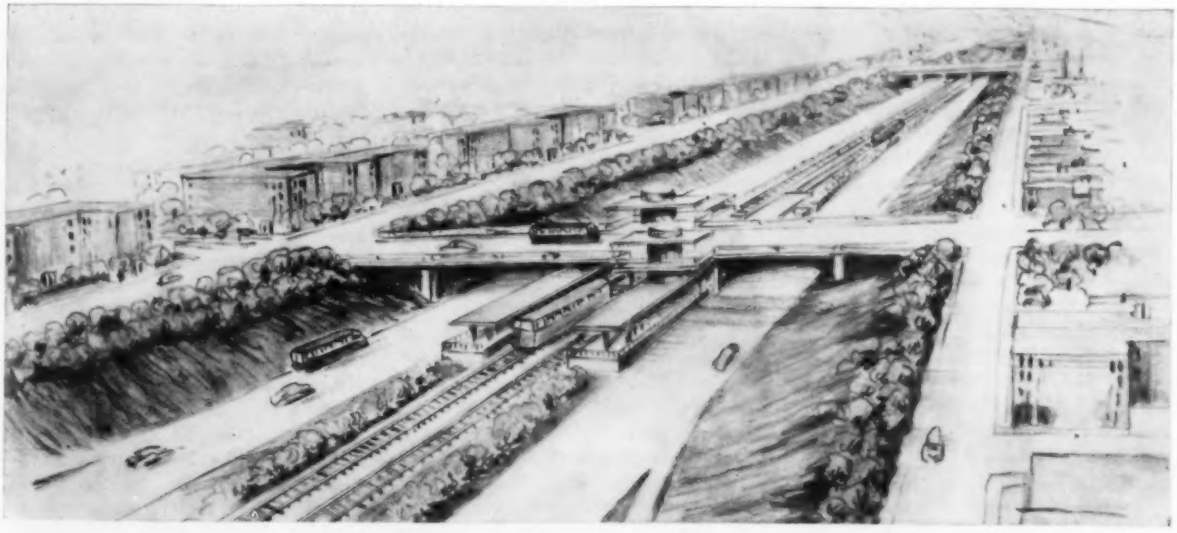
New Expressways Planned for Cincinnati

GRANTS in aid under the recent statute* providing for federal financial participation in highways within urban areas, combined with state funds, will make possible construction of expressways of the type here shown. This sketch by the Cincinnati City Planning Commission staff shows a type of modern expressway on which high-speed traffic moves along unimpeded by intersections or stoplights. Service roads parallel the freeway route assuring its maximum usefulness to those using the road for long-distance travel, as well as to those in transit between outlying parts of the metropolitan area and the downtown district. Entry and egress are via service ramps and modified cloverleaves.

State and City Cooperate

"Construction of the expressway itself will be handled by the Ohio State Highway Department," writes Walton R. L. Taylor, Executive Secretary, Citizens Planning Association for the Development of the Cincinnati Area. "The Planning Commission and the Highway Department are currently collaborating on location of the expressway, in order that it will be harmonized with the transportation features of the Master Plan now being made by the Cincinnati Planning Commission for the entire metropolitan area. The termini of the expressway are known and as soon as the precise location is established, design studies will be made by the Highway Department."

* See THE AMERICAN CITY for January 1945, page 5.



This sketch by the Cincinnati City Planning Commission shows a type of modern expressway

Can Human Freedom Survive Atomic Energy?

Our local officials and our public schools have a grave responsibility for the answer

By MABEL L. WALKER
Executive Director, Tax Institute

THE atomic bomb provided an awe-inspiring climax to an awful war. It ushered out the most horrible of conflicts. It may be ushering in the most astounding of ages. The literate world gasps with apprehension on the threshold of a new era. Perhaps only the discoveries of fire and electricity rank in significance with this new development.

Pessimists point out that it may drive man underground. Optimists see a tremendous lightening of man's heritage of toil. Pessimists and optimists alike, however, wonder whether we are spiritually ready for this amazing discovery. The average person appears either to be alarmed because of the physical destructiveness of atomic energy or to be pleased because of its labor-saving potentialities. Perhaps its real significance lies elsewhere.

The Mythical Age—and Today

In the legendary world man was forever seeking some small object which would give him supernatural power over material things and over his fellow beings. Aladdin with his lamp, Jason with his fleece, Siegfried with his ring, were no longer bound by the restrictions and regulations that applied to mankind in general. Again and again we find this quest for extraordinary power. Men strove mightily to obtain its possession and underwent great sufferings and hardships to that end. Sometimes such magic objects were in the possession of evil characters who used them to enslave their fellow beings. Sometimes they were obtained by heroes—but heroes with human frailties. Always the power was greater than the wisdom to use it.

Now the centuries roll back to the mythical age and mankind at great cost has secured this small and priceless possession—power so great that enough of it to achieve miracles could be wrapped in a handkerchief and concealed in a vest pocket—power that, because of its nature, will probably always be in the hands of a few to be used for, or against, the many.

What will this vast concentration of power do to national sovereignty, to economic enterprise, to labor, to religion, to social customs, to human freedoms? Our modern heroes of science and government have braved unknown mysteries to tap the secret mainspring of the universe and wrest this fearsome treasure therefrom. Like legendary characters, they have first used this supernatural power to overcome their enemies.

What Next?

What next? Is it to be a question for the multitude of slavery under a tyrant or of leading a vapid existence under a benevolent despotism? Or can man continue to strive for human freedom and dignity and to enjoy his individual foibles? Can the little man with his simplicity and ruggedness, his small dreams and humble ways survive, or will this vast concentration of power bring robot-like masses participating in a colorless prosperity?

With prophetic clarity the Founding Fathers realized that democracy could not survive without education, and the infant Republic set its face toward a goal of free and universal education. According to our present standards that goal has been imperfectly realized, but the principle is established and we have moved steadily forward toward its achievement.

Again mankind is at a crossroads. Again the urgency of education becomes pre-eminent if human freedoms are to survive. But education for freedom in the atomic age takes in much more territory than education for freedom in the horse-and-buggy age.

Education will be revolutionized. Already the war has had a tremendous influence upon education and educational methods. Men have had to learn well and to learn quickly. Moreover, the G.I. Bill of Rights has opened the doors of higher educational institutions on a more democratic basis than ever before in our history. Such a broadening of educational opportunity would under any circumstances have a profound effect upon educational institutions. But it will have a much more pronounced effect because of the serious, determined attitude of many of the veterans. Men who have raised the flag on Iwo Jima or stormed the beaches of Normandy will bring a grim earnestness to their studies.

To Learn to Live Together

But these things will affect education because of our voluntary desire that educational opportunities be broadened and educational methods improved. The discovery of atomic energy will affect education because of our realization that educational opportunities must be broadened and educational methods must be improved if we are to save our heritage of freedom.

Atomic energy will be toil-saving only for certain groups. It may make it possible for the coal miner and the fireman to lay aside the pick and the shovel, but it will not permit the scientist to leave his laboratory, or the statesman to forget the cares of office. Most emphatically, it will not permit the schoolboy to throw away his books.

The schoolboy of the future must learn geography and science to a degree and with a thoroughness never before approached. He must do this in order to speak the language and live the life of tomorrow. But even more important for the future of mankind will be the study of the arts and sciences of living together—history, government, public finance, economics, and sociology. Moreover, just as we have learned in the past to calculate without the mental image of a wheel, or the time-honored device of counting on our fingers, so the child of the atomic age must learn to think through governmental, social, and economic problems without the aid of labels and slogans.

The atomic bomb will reverberate throughout our entire economic and social structure. Can human freedom survive? If is can, it will be through education of the masses, particularly in economics and government and in racial tolerance and friendly international relations. Here our local officials and our public schools have a vital role to play. For national public opinion in a democracy has its foundations, not in the halls of Congress but in the local communities from which the legislators come.

Perhaps the greatest hope for mankind lies in the soberness with which this great discovery is being received.

Waterbury's Water Supply Plans Pay Off

Developing its water supply system according to a foresighted plan Waterbury, Conn., brass center of the country, was able to meet the exacting demands of war

SOUND LONG-RANGE planning of the water supply system helped Waterbury, Conn., when the water supply had to be expanded to meet the enormous wartime demand in this industrial center.

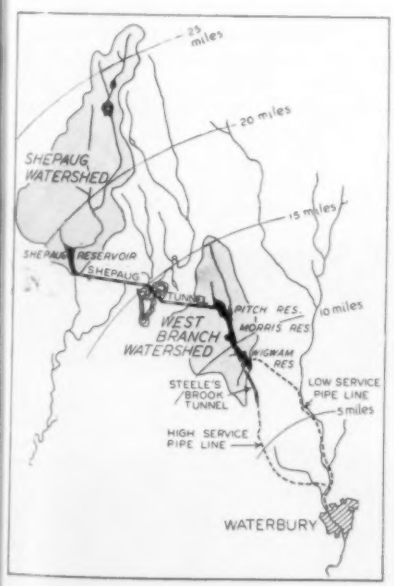
The city uses a surface water supply, drawing on two main watersheds, the Shepaug and the West Branch, owned and controlled by the city. Since 1868 it has been building various impounding reservoirs to trap this water and divert it for municipal use.

The present system uses four of these reservoirs, as follows:

Reservoir	*Watershed*	*Capacity*	*Elevation*
Shepaug	Shepaug	575 mg	819 feet
Pitch	West Branch	1,440 mg	727 feet
Morris	" "	1,987 mg	652 feet
Wigwam	" "	740 mg	562 feet

Before the war the city was supplied from the Shepaug reservoir which emptied into Pitch Brook above the Morris reservoir through a tunnel 7½ miles long built primarily to divert water from the Shepaug watershed into the West Branch reservoirs. At that time water was conveyed from these reservoirs to the city by a single pipe line.

Although hills and valleys make Waterbury beautiful, they create knotty problems for the engineer. Elevations vary throughout the distribution system by more than seven hundred feet. This, of course, requires a high- and a low-level system. The high-level system was served through three pumping stations.



This map shows the two watersheds and the various reservoirs supplying Waterbury.

The spillway of the Morris Dam in the West Branch watershed is ninety feet high. It is of earth with a concrete core wall. Two billion gallons can be impounded.

Long-range Planning

When the war industrial program got under way another storage reservoir was required to impound enough water to supply the increased demand. Foresight simplified the city's task, for the Shepaug Reservoir had been planned to supply not only the Morris, but also another reservoir to be built in the future. Thus the Pitch Reservoir, which was completed in 1944, was part of the over-all long range plan.

Long before the war, city officials had recognized that an additional pipe line was required to connect the city with the source of supply, both to meet the increasing demand and to protect the city from water supply failure. By 1941 the need for the construction of this line had become imperative. The existing 47-year-old 36-inch line had lost about 40 percent of its carrying capacity because of tuberculation, and the increased demands of war made a record-breaking supply of water an absolute necessity. When it came to building this second supply line, foresighted planning paid dividends, for when the Shepaug tunnel was holed through in 1926, the Engineering Department, anticipating the time when the second supply line would be built and having the necessary equipment on hand, also holed through the 7,300 feet of tunnel that would be needed to construct the line. Later 7,400 feet of 36- and 42-inch cast iron pipe were laid through the tunnel section as part of the new high service system. However, the work was curtailed during the depression and the line left unfinished until it was needed in 1941.

Pipe Protection

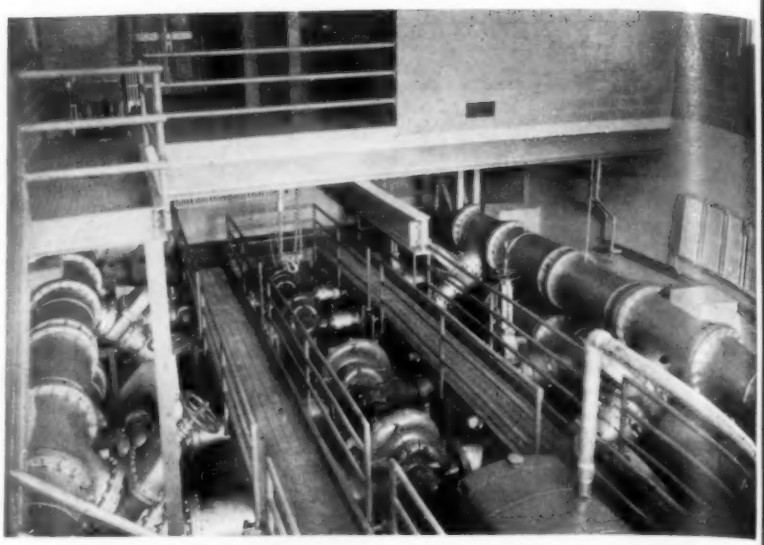
Waterbury's soft water subjects cast iron pipe to tuberculation, as demonstrated in the 40 percent reduction in carrying capacity of the old supply line; consequently, the engineers seriously studied the matter of pipe protection. After careful consideration, they selected reinforced concrete pipe to complete the line and a protective cement liner for the whole line including that already laid.

Work on the second supply line was resumed by the Lock Joint Pipe Co. The lining work was done by the Centriline Corp. The latter was complicated by the fact that the cast iron section had a coat of tar which had to be removed before the cement lining

could be applied. The contractor, however, developed a special machine which successfully removed the tar.

The whole length of cast iron and concrete pipe line was lined with cement mortar in proportions of one part screened and dried sand to one part Portland cement with low water content. The work was done by a centrifugal lining machine with a head revolving at high speed that projected the mortar against the walls at a uniform thickness. Revolving blades followed the placement of the mortar and troweled it, leaving a smooth finish on the interior.

The new high service line was designed to draw water from either the Morris or the new Pitch reservoir. At present, water is being drawn from the Morris because with the recent excessive precipitation this reservoir can furnish sufficient water.



This is the pump room of the new control house which provides water for the high service supply of Waterbury. The three DeLaval centrifugal pumps with the Waukesha gasoline engine in the foreground

High Service Control

Changes had occurred in the city's high-service distribution system during the fifteen-year interval since the pipe line had originally been planned and consequently the hydraulic gradient of the line needed revision. One easy way to have done this would have been to raise Pitch reservoir, however, in order to put the line into operation as quickly as possible the engineers called for a control pumping station between Morris Dam and Wigwam reservoir.

This structure, built in 1942, consists of three water turbine DeLaval centrifugal pumps with capacities of 3, 5, and 7½ mgd. The 3-mg unit has a standby Waukesha gasoline engine. Two Builders Providence venturi meters measure the water flow; one measures the flow through the turbines and one through the pumps. A set of four Ross pumps, builds up water pressure to 250 pounds, forcing it through the two Wallace & Tiernan chlorinators of 200-pound capacity.

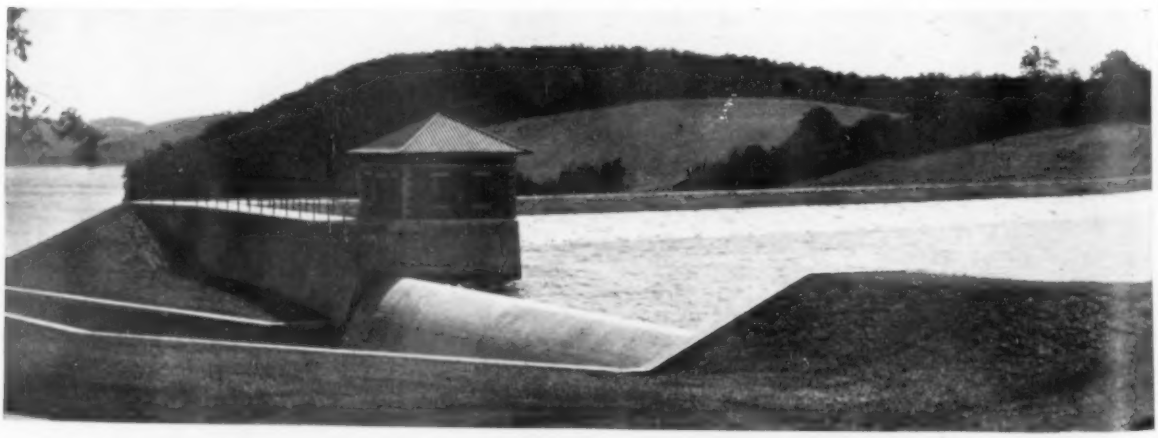
Construction on the new Pitch reservoir was begun in March 1942 and completed in September 1944. The principal feature of the structure is the earth dam with an impervious core of select hardpan across the Pitch Valley. Hardpan overlying the rock formation on the west hillside to a maximum depth of 60 feet was tight enough to serve as the west abutment of the dam, and by the use of selected material for the central third of the earth section, the impervious core was obtained, eliminating the necessity of a concrete corewall.

The spillway is on the east side of the valley on a low ridge separating the main valley from a small ravine. The ravine provides the overflow channel. The reservoir is supplied with water from about 5.75 square miles of watershed and from the Shepaug reservoir by a tunnel. Total cost of the dam was about $1,000,000 of which $500,000 was provided by a Federal Works Agency grant.

By February 1944 the Shepaug had diverted enough water into the Pitch to partially fill it. The new pipe line and control station had been in operation since August 1942 using the Morris supply, but it was not until a sufficient head was available from the Pitch that the three old pumping stations serving the high service areas went out of service. Since these pumping stations have ceased operation the city has realized a savings of $23,000 a year with the new system.

Water from the Pitch is passed through the turbines at the new con-

(Continued on page 131)



The new Pitch reservoir. The up-face side of the dam can be seen stretching to the right of the control house. The rip-rapping is of native stone. The spillway is in the foreground just in front of the control house

Vast Public Works Program Essential to Full-Time Production

By F. H. LA GUARDIA
Mayor of the City of New York
President, United States Conference of Mayors

I HAVE to repeat what I have been saying since 1941, even before we got into the war ourselves but while our industry was very busy filling orders on Lend-Lease money. Heavy industry cannot get back to peace and full-time production unless there is an immediate enormous public works program. I cannot make that statement too strong. Our mines, steel mills, makers of building materials, cement, bricks, hardware, glass, will require little, if any, retooling. So, you see, we can get to production at once.

New York City Prepared

New York City is prepared. The country, I am sure, before many weeks, will be most grateful that we, at least, are ready to place orders, and I am confident that the grants from the United States Government will be forthcoming. They just have to. Such grants (on a 50-50 basis) would permit us to do twice as much work and hence place twice as many orders and use twice as much material as if we were to do it with our own funds entirely.

Thanks to the splendid cooperation of the Board of Estimate and the City Council, New York City will have the outstanding record of the entire world for its vision and foresight, in being ready with a public works program. We have already spent $21,614,000 for plans. By that I do not mean pictures—I mean the working, engineering, and architectural plans to do the work. We have complete plans for 28%, covering $331,000,000 of public works; 19% of our plans are over 50% complete, covering over $231,000,000; 31%, covering $375,000,000, are less than 50% complete; and 21% of our plans are not yet started.

Now, I want to make it clear that public works is not the complete solution. It is only one of the factors. It is the necessary start and the necessary reserve to absorb material supplies not needed by private enterprise, and to reduce unemployment during such times that industry and commerce pick up the pace necessary to maintain production, employment, and national income necessary to meet our new economy.

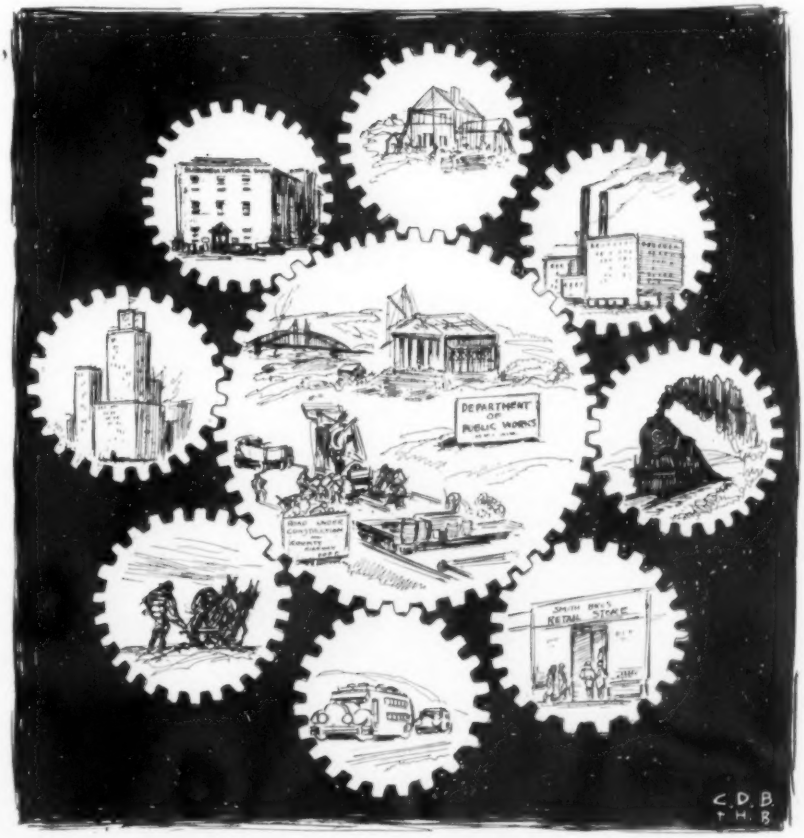
In Terms of Material and Labor

Let me give you an idea of what public works means in terms of material and labor. According to the last progress report that I have received, our proposed construction program aggregates $1,250,600,000. This would require 396,500,000 man hours of labor for construction. Now, mark you, this does not include the labor for manufacturing or processing of the raw materials. If Congress acts quickly—by that I mean in the next few days or the next few weeks—New York City could employ and have working on construction by the end of one year, 100,000 men, reaching a peak of 200,000 in the second year, and starting to decrease in the third year, having the entire program completed in four or five years. Employment of 100,000 men in construction on the job here, means 400,000 or 450,000 back of the lines in mining, foresting, manufacturing, and transportation.

Let me give you an idea of what I mean by that. New York City's program embraces 2,381 projects, plus three of the Port Authority and two of the State Parkway within the city. This would require 1,209,951 tons of steel. Do you know what that means?—30,248 freight cars of steel. It would take 378 trains of 30 cars each to bring that steel into the city. 22,000,000 barrels of cement, 440,500,000 bricks. All this will have to be manufactured, you know. I just cannot pick them off the trees in Central Park. Nearly 1,000,000 gallons of paint, $76,000,000 of plumbing and heating, $66,000,000 of elec-

Public Improvements the Master Wheel

Give it more power and speed, and all the other wheels will spin more rapidly



Drawn for THE AMERICAN CITY *by C. D. Batchelor; originally published in this magazine January 1931*

trical wiring and appliances, $36,000,000 of machines and other equipment.

Less Costly Than Unemployment

This is only a part of the construction material, but it will give you an idea of the magnitude of a national program. Now just multiply that, of course, in proportion to size, by the states of the Union, the cities, the counties, and the federal government itself, and it will be seen that it is the one big start to get this country going.

But it will cost money, some will say. Of course it will. It will cost billions, others will say. Of course it will. Now let me say something about it. It will cost fewer billions than any period, short as it may be, of general unemployment, and don't let anyone get the idea that that is not possible in the very near future. In addition, national wealth is created through a public works program. Employment for war workers and veterans is productive. Unemployment insurance or relief is costly and destructive. By going into an enormous public works program we start the wheels of prosperity going. Unemployment insurance and relief hold the wheels, and gradually put the wheels in reverse, with increasing speed, according to the length of the period of unemployment. I have gone through such a period and I know what it costs and what it means.

From Mayor LaGuardia's broadcast to the people of New York over WNYC, August 19.

Resolutions on Pollution Abatement, Airports, and Public Safety

At its annual executive conference on August 15 and 16, New York State's Joint Legislative Committee on Interstate Cooperation adopted three resolutions of interest to the cities of that state and of the other states as well.

One resolution calls for resuming the war-retarded task of pollution abatement, possibly through the use of state aid. A second calls for the channeling of federal grants for municipal airports through the states, rather than making the grants directly to the municipalities, as pending Congressional legislation now contemplates. The third resolution calls for the creation of a safety bureau within the state government to coordinate the activities of the various safety agencies now operating in state departments.

Copies of the resolution may be obtained on application to Miss Isabelle Savell, Educational Director, Joint Legislative Committee on Interstate Cooperation, 204 River Road, Grand View, Nyack, N. Y.

CED'S Recommendations for Handling Changeover Unemployment

RAPID demobilization and strengthened aid and protection to veterans in obtaining civilian jobs; prompt state action to raise unemployment compensation benefits and to extend duration of payments; a strengthening of public employment services to aid post-war migration and to assist the speedy placement of both veterans and civilian workers; rapid blueprinting of a "reserve shelf" of public works for use if and when needed; provisions for retraining workers for their new post-war jobs; and finally, a strong recommendation that individual employers at once put into effect their post-war plans for rapid business expansion and the creation of new jobs—these are the highlights of a comprehensive statement of national policy released on August 27 by the Committee for Economic Development.

The Committee opposes arbitrary reductions in the pre-war normal work week solely for the purpose of sharing employment. "We do not want to freeze unemployment into a short work week, since a national 'share the work' policy is essentially a 'share the unemployment' plan which places the burden of unemployment on the workers and tends to restrict desirable labor mobility," declares the report.

Public Works

In the Public Works section of the report, the Committee urges avoidance, as far as possible, of government projects competing with private industry for construction during the transition. However, it strongly urges federal, state, and local governments to speed preparation of an adequate "reserve shelf" of needed public works to be ready when and if required to provide additional employment. In this connection the Committee recommends that additional federal appropriations be made, when and as needed, to further public works *planning;* but it does not recommend federal grants for state and local *construction* to meet changeover unemployment. The report stresses that public works can only supplement other unemployment measures; it cannot replace them.

This policy statement, entitled "The Problems of Changeover Unemployment," was issued by the CED Research Committee. During the preparation of the report, Committee members had the benefit of analyses and recommendations contained in two major CED Research Studies: "Manpower Demobilization and Reemployment," a study by Robert R. Nathan and Emmett Welch (to be published shortly); and "Providing for Unemployed Workers During the Transition," by Richard A. Lester, published last spring by McGraw-Hill.

"Local Government, Prime Builder of Britain of Tomorrow"

UNDER this heading the July-August 1945 issue of *Local Government Service,* official journal of Great Britain's National Association of Local Government Officers, carries the text of the talk given by President A. A. Garrard at the opening of the "Victory Conference" held by that Association at Blackpool—a conference that discussed many problems American municipal officials also face.

Pointing out that the remarkable achievements of local governments during the war must now be followed by peacetime activities of great importance, Mr. Garrard added:

"How great these tasks will be none of us can yet fully realize. Some hint of the tremendous new responsibilities which are to be placed on local authorities and their staffs during the period of reconstruction was given in the recent White Paper on local government. They are to be primarily responsible for restoring our shattered towns, for building millions of new houses, and for rectifying past errors in town and country planning. They will play a big part in remodelling our educational system. Upon them will fall a large share of the operation of the new National Health Service and of the Government's measures to prevent unemployment.

"Local government, in short, will be the prime builder of the Britain of tomorrow. Upon its principal officers and their staffs, and upon the wisdom with which they are directed by the local authorities, will depend the shape of things to come in this island of ours.

"What is that shape to be? Is it to be the muddled hotch-potch of beauty and ugliness, mansion and slum, different standards of education, health, and housing, which we have known in the past? Are the facilities and amenities of a full community life to continue to depend upon the financial strength or weakness of the locality in which the citizen lives? Or is it to be a Britain of which its sons and daughters will be proud, where all will have equal access to houses in which to make beautiful homes, to open spaces in which to play and enjoy God's fresh air, to education and culture, whether for work or leisure, to medical and hospital services which will ensure a healthy life?

"The answer rests with the people of Britain. They must see to it that the local government service to which will be entrusted the administration of the work of reconstruction is efficient and adequately rewarded for its labors."

Tackling the Airport Enigma

A City and Regional Planning Job of Major Urgency

By EDGAR N. SMITH
Airport Planning Consultant
Civil Aeronautics Administration

JUDGING by the convictions expressed so volubly (verbally, and in print) there appears to be wide difference of opinion as to what sort of airports your town will need in the post-war era. On the one hand there are those who advocate nothing less than a hundred million dollar seven-star super duper—for, after all, isn't your town (and mine) the center of the world air map? At the other extreme are the advocates of a single strip a couple of hundred feet wide and a few blocks long at the intersection of Main Street and Broadway.

Actually, if you tone down these seemingly divergent views to reasonable limits, they are both right. And, to some extent, so are those who advocate a middle-of-the-road compromise. Some cities find a need for a big-league ball park. Others do very well with a sandlot. Some cities can fill two or three big-league stadiums to capacity—and use a hundred or so small diamonds too. Most urban places find they need one or more of each kind: a major (or minor) league field, a few diamonds strategically placed throughout the park system, and a number of sandlots. That is about the way it will be with airports.

The Commercial Transport Picture

For the multi-engined aircraft common to scheduled transport operations flying in daylight and darkness, good weather and bad, a city will need a major airport. It will have to be big: at sea level the runways should be at least 4,500 feet long; if your city is at an elevation, these runway lengths would have to be increased. It will be elaborate: pavement, buildings, parking areas, high-speed access to town—these and many other factors will influence the final design. It will probably be expensive.

It will be all of these things because it is designed primarily for scheduled transport operations and for transport types of airplanes.

There is going to be a lot of flying in scheduled transport. Besides being fast, it is a comfortable way to travel. There is little doubt that in a few years we shall see from five to ten times as much flying of that sort as we have today. *But that is only one kind of flying.*

At least one authoritative estimate predicts the possibility of 400,000 civilian aircraft in this country ten years after the war. Not more than 3,000 of these will be in scheduled transport. (There are fewer than 350 transport planes in operation by all the domestic airlines combined at the present time.) A network of *major* airports will take care of that aspect of the problem.

For cities on air lines or able to foresee types and approximate volume of traffic, there are Classes V to I airports costing down to $200,000. But for the hundreds of places of 1,000 to 5,000 population with no means of predicting future traffic, the way appears to be to choose the best site for an airpark and to build and extend runways as they are needed. Regard it as both a transportation and a recreational element in the community plan.

How about the remaining 397,000 *smaller planes?*

Some of the latter can, of course, be accommodated on *some* of the major airports in cities throughout the country. But not 397,000. Even with a five-fold increase in scheduled transport operations, you won't want to do much flying around a terminal airport in your personal plane.

Besides, you won't need a field that big, or that elaborate, for your personal plane. You won't want it to be as far from your home as the major airport usually is.

Small Ports for Small Planes

For the smaller, lower-powered airplanes most cities will need *several* small airports, or "airparks" as they are commonly called Compared with the major airport each of these will be small—probably less than one-fourth the area of the larger field. And they will not be expensive. A Class IV airport for transport operations frequently is a $5,000,000 proposition. *For half that amount you can build ten Class* $250,000 a piece!

But don't minimize their importance. Planning for enough landing facilities—or the right kind, in the right places—is the most important city and regional planning job facing us today. It is the only one I know of that offers an opportunity of finding a complete solution—maybe even the right solution—at the outset.

Back around 1910 some experts were convinced that the automobile market was saturated. Handling the potential traffic, we thought, was dependent upon paving and occasionally widening our city streets. It took about a quarter of a century to find out that the only way to move traffic efficiently is with uninterrupted flow, and the way to get that is to provide a system of limited access highways—freeways, express highways, parkways—call them what you will. If we hadn't muffed that one so badly, our cities might have been much better suited to the automobile age. Nearly every other aspect of city planning is concerned with revision or rehabilitation in some form—correcting mistakes made with durable materials.

There is a chance now to foresee and provide adequately for our airport needs. Don't let us miss it. The problem is capable of solution in most metropolitan areas.

Site Selection Comes First

In the last analysis it is a problem of site selection—how many? how big? where?

With a clear understanding of just what constitutes a suitable site, and a whole lot of ingenuity, you will probably find enough still available. That is mainly because subdivision and building have both slowed down during the war. There is little likelihood that sites will still be available a few years hence.

The preparation now of a Master Plan of Airports—an over-all pattern of *all types of airports* likely ultimately to be needed—will pay dividends in orderly development, convenience, and cash.

Such a master plan should, of course, be correlated with all the other elements of the community plan. There is, in fact, a growing awareness that airports themselves constitute an element in the community plan—a relatively new, but exceedingly important element. That they can be fitted into the expected pattern of physical de-

velopment, and into the social and economic life of a community, is becoming more and more evident. Take, for example, the small airport, or "airpark." The need for numerous facilities of this sort, especially in metropolitan areas, is the most important aspect of the whole problem.

Our cities, even our suburbs, suffer from lack of sufficient open space. There is no reason why an "airpark" on a well-chosen site, skillfully planned, carefully developed, and well maintained cannot become as great an asset as a golf course or a park in alleviating that condition.

Nonsense, did you say? An airport is objectionable near a residential area? Most opinions expressed on that score cite one or both of these arguments: objectionable noise, and danger from falling airplanes. Neither one is justified by the facts. We are talking, remember, about a landing area for the exclusive use of small planes. Multi-engine transports and the exceedingly high-powered military planes so common nowadays are noisy. The little fellows, even in their present state of development, are not too bad.

Don't Be Afraid of Noise

In St. Petersburg, Florida, there is a Class II airport right in the downtown district. One day last year, from an open hotel window, I watched a Stinson Voyager make an approach to a landing there. When I first noticed it, the plane was only about a hundred yards away, *and if I hadn't seen it, I wouldn't have known it was there!* Not so long ago some of us were in an office on one of the small airports near Houston, Texas. The venetian blinds were down. (They have a lot of everything in Texas—that morning they had plenty of sunshine.) Students were training there in 65 hp Piper "Cubs." One after another they took off and passed directly over the office in which we were talking. The noise they made was really less noticeable than the street noises outside my office in Washington. Presently, I noticed the sound of another engine — so much louder than the rest, that I opened the blinds to see what sort of craft it was. It wasn't an airplane at all. It was a trailer gasoline truck on the highway about 200 yards away!

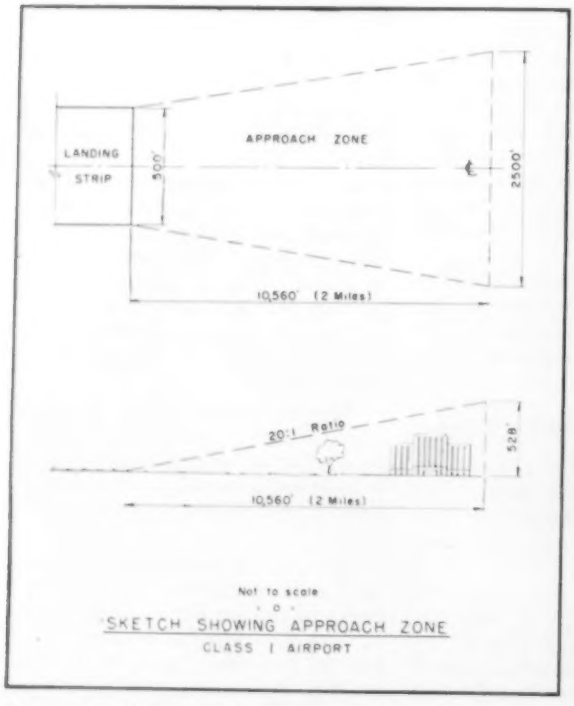
So much for present types of small planes. And the manufacturers haven't really tried to make them quiet. In the future, they will.

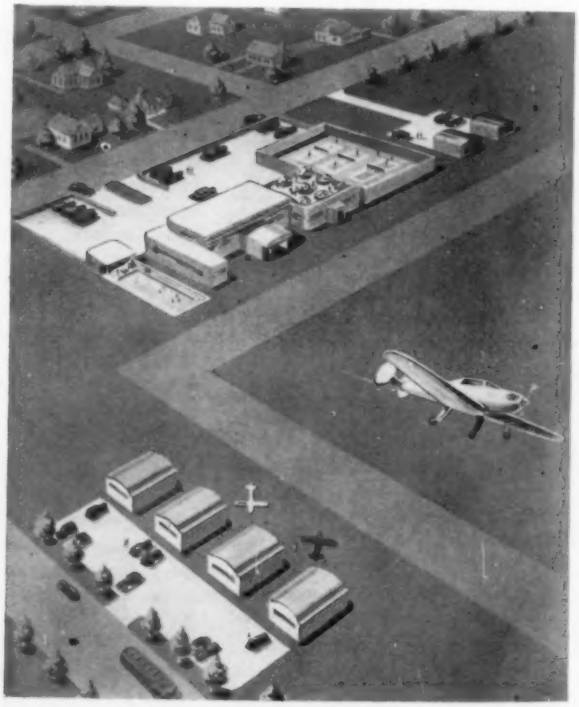
Now for the danger from falling airplanes. The Safety Bureau of the Civil Aeronautics Board recently made a study of collisions of civilian aircraft with buildings for the four years of 1940-1943 inclusive. In the United States during those four years there were eight collision accidents involving residential structures. One occupant of such a building was injured—not seriously. The probability of an airplane striking your home is so absurdly small that it is difficult to express it mathematically. Does that surprise you? The pilot, you know, would much rather land on an airport than on your house. When we have enough landing areas in convenient locations he will go to great pains to land on those—and your house will probably be safer than it is now.

How an Airpark Will Look

What will they look like, these small airports, or "airparks"? One possibility is illustrated here. Based upon the performance characteristics of the types of planes expected to use this kind of field, landing strips should be from 1,800 to 2,700 feet long (at sea level conditions). Except where frost or precipitation is excessive, the landing strips will not have paved runways. They will be turf. The illustration shows two such strips in the form of an "L." Where vacant land is scarce, "L", "X", and "T" shaped layouts are often suggested. When you can provide it, an all-way landing area is probably better.

Approach zones, in line with the landing strips, should be kept clear of obstructions that might project up into the flight path of an airplane gliding in for a landing or one climbing out of the field. Satisfactory approach zone standards for a Class I





LEFT: *The glide path ratio does not greatly restrict the use of land; a 20:1 ratio is 132 feet above the level of the landing strip a half mile from the airport.* RIGHT: *The Class I Airport or "airpark" is designed for small, private-owner type planes up to 4,000 pounds gross weight*

"airpark" are shown in the accompanying sketch. You have probably observed that when a plane takes off the pilot keeps going straight away in line with the runway until his plane has climbed to an altitude of 500 feet or more before turning out of the pattern, and that landing planes customarily line themselves up with the landing strip, then glide in to a landing. In each case they are flying over an approach zone.

Use of Surrounding Land

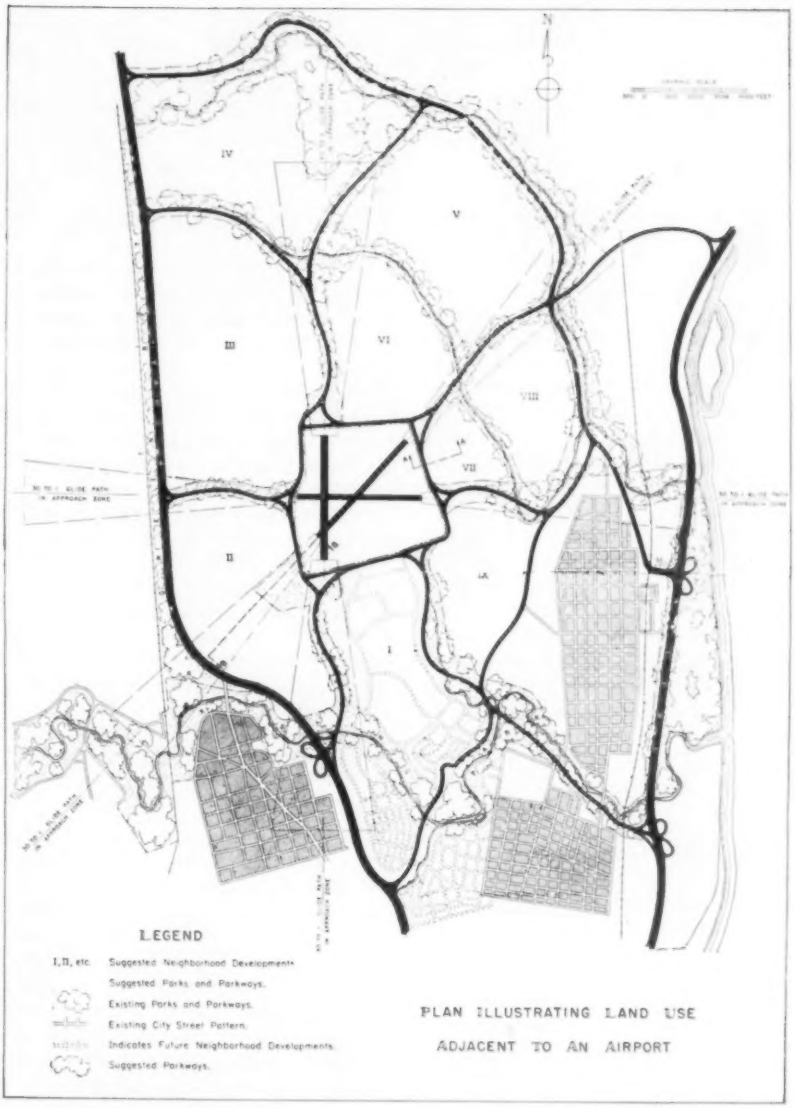
Except for these approach zones which radiate out from the ends of the landing strips, the aeronautical activities at the "airpark" will not restrict the use of the land surrounding the field. On the contrary, each of the areas *between* the approach zones will lend itself to development as a complete neighborhood, with shopping center, and appropriate community services and facilities located near the airport boundary. An "airpark" having an "X" shaped landing area, for instance, could be the central focal point of four neighborhoods.

Recreational facilities will be provided. They fit conveniently and quite appropriately into the parts of the airport not needed for the landing area or for the storage or servicing of aircraft. Other community uses will fit neatly into the final plan.

The same principle applies to the only part of the approach zones in which use and height restrictions are really stringent—i.e., right close to the ends of the landing strips. Community gardens might well be located there; or a football field (it will never have anything higher than the goal posts on it); or, you may find that the approach zone is an appropriate route for an express highway or parkway.

Other Facilities Needed

Those two types, the *major* (airline terminal) airport, and the coordinated pattern of small airports or "airparks," will together make up the bulk of your Master Plan of Airports. What other sorts may be needed? In some of the larger metropolitan areas where, in addition to the major airport, there may ultimately be ten or more "airparks," a separate facility for "miscellaneous commercial" activity may be needed. Servicing and minor repairs will, of course, be provided for at each small field; but major overhaul, airplane sales, parts and accessory dealers, charter service operators—these and related activities may tend to locate on a "miscellaneous commercial" airport. Not unlike "automobile row," or the "shopping district," downtown. Roosevelt Field on Long Island came close to being that sort of facility in pre-war days. Many manufacturers and dealers were represented there. So, too, were the rent-a-plane people, charter service operators, aerial advertising companies, and flying schools.



PLAN ILLUSTRATING LAND USE ADJACENT TO AN AIRPORT

Speaking of flying schools, flight training may require special attention. In some parts of the country, it undoubtedly will. The recently completed Airport Plan for the St. Louis Region makes provision for several "Training Fields" as a special category. This will probably be sound planning in certain other metropolitan areas; for the rest, frankly, I don't know.

One other major category, *military flying*, must be considered in the Master Plan of Airports; but the special considerations which affect the location and size of airports needed for this purpose do not come strictly within the province of city, county, and regional planning officials. Existing military airports will, of course, influence the choice of location for civilian fields. Some, built for military purposes during the war, may be turned to sound civilian use after the war; others may not.

That, in brief, is what a Master Plan of Airports is. How many airports? What kinds? Where? Every metropolitan area should have such a plan. Some already have; in others planning studies are under way. St. Louis and Milwaukee have completed theirs; in Philadelphia, Los Angeles, Houston, and Seattle plans are nearing completion; studies are under way in Detroit, Indianapolis, Minneapolis and St. Paul, Nashville, and Miami, to mention a few.

(Continued on page 133)

Our Dead and Dying Rivers

Stream pollution increasing rapidly all over the country presents, among its many destructive effects, an ominous threat to public health

By HOLMAN HARVEY
Stamford, Conn.

NOW that the United States can get back to domestic affairs she has a pressing chore to tackle, the job of liberating our waterways from pollution.

The other day I rode the ferryboat across the Delaware River from Philadelphia to Camden. Some 360,000,000 gallons of raw sewage from the two cities were churning down the stream. The paint on ships and the buildings along the banks was blackened by sulphurous gases arising from the contaminated currents.

Next day I went downstream to Chester, Pa., where the city's water for its 60,000 people is so heavily weighted with purifying chemicals that many buy bottled water. Bathing here is impossible. Fish life likewise has all but vanished.

Beautiful Bathtubs But . . .

More than 3,400 cities and towns, inhabited by 29,000,000 persons whose bathtubs are the envy of the world, discharge a daily volume of 2½ billion gallons of raw sewage into our waterways plus about 3¾ billion gallons of industrial wastes. On both our Atlantic and Pacific seaboards—particularly the Atlantic—streams and rivers and long stretches of both our coastlines are seriously polluted. Bathing beaches have been declared unsafe and some oyster and clam grounds have been damaged and some even destroyed.

Turning inland we find almost 1,000 miles of the Ohio River from Pittsburgh, Pa., to Cairo, Ill., gravely overburdened with raw sewage. In the Ohio River basin annual death rates from diarrhea and enteritis have risen during the past twelve years, and bathing has become a serious health hazard.

Not alone the Ohio but all the great river basins which drain densely populated industrial areas are dangerously loaded with waste. Figures from a cross-section of only fourteen communities show 240,000 cases of epidemic gastro-enteritis traced within fifteen years to polluted water supplies.

Water is tested for the presence of disease organisms by taking a count of the coliform bacteria. These bacteria, which inhabit the human colon, are readily detected, whereas disease organisms are not. Five coli to the pint is the official purity standard of the U. S. Public Health Service for safe drinking water.

What is to be done about this problem? Read the article discussing this question soon to appear in The American City by M. LeBosquet, Jr., Sanitary Engineer for the United States Public Health Service, in charge of the Stream Sanitation Unit of the Public Health Service Water and Sanitation Investigations Station at Cincinnati, Ohio. Mr. LeBosquet was intimately concerned with the Public Health Service Ohio River Pollution Survey.

Absolutely pure water is found only in the laboratory; thus it is that water for drinking is treated to a greater or less degree depending upon the amount of impurities in the water. If the percentage of polluting substances is high, treating the water to render it pure is economically unsound and the water produced is unpalatable. Here again the Public Health Service has set up a standard: it considers that the most modern and effective purifying treatment now known cannot safely be depended upon to remove all the disease organisms from water which contains more than 100,000 coli to the pint; and, therefore, it holds that a water source with such a coli count is unsafe for community use.

The Toll of Water-Borne Diseases

While water-borne typhoid fever has been virtually eliminated by water treatment, deaths from diarrhea and enteritis, also water-borne diseases, have not shown the same decline. Periodic outbreaks of "intestinal flu" have been traced to polluted water. This disease has swept over hundreds of cities in recent years. Moreover, the mysterious origin of infantile paralysis epidemics may at last be found in waterway pollution. The Journal of the American Medical Association has reported that the poliomyelitis virus has been isolated from water containing raw sewage. It may be significant that polio epidemics appear in the hot months when children swim and wade, that the disease annually attacks children, and that it abates in cold weather.

The most comprehensive coli counting ever undertaken along a major river basin was completed just two years ago by the U. S. Public Health Service in the Ohio River Basin. This survey was conducted by one hundred employees of the U. S. Public Health Service and the report of the survey* was prepared in part under the general supervision of M. Le Bosquet, Jr. It took three years and cost $600,000. Some 71,000 water samples were taken from two thousand locations along the river and nineteen of its tributaries. Bearing in mind the safety limit of 100,000 coli to the pint, here are some of the findings of the Ohio River pollution survey:

Ohio River Survey Findings

At 740 of the two thousand locations sampled coli counts were high enough to render the water unfit for use as a water supply or for bathing. At 1,160 locations the water was unfit for bathing and of "questionable quality" as a source of water supply. Recurring cases of typhoid fever and other intestinal diseases are traceable to swimming and boating in these waters.

Pollution is severe in Pittsburgh, Cincinnati, and Louisville. At Emsworth Dam, six miles below Pittsburgh, the coli count ran as high as 405,000 to the pint, with ten percent of all samples showing an excess of 100,000. Along the heavily polluted ninety-mile stretch between Pittsburgh and Wheeling, W. Va., from which eight communities with 175,000 residents take their water supplies, the average coli count, as taken at East Liverpool, was 125,000.

Raw water at the Ironton water works showed a coli content as high as 340,000 to the pint. Below Louisville the count at New Albany, Ind., ranged from an average of 320,000 to a maximum of 1,200,000! Within recent years, epidemic enteritis has broken out at Charleston, Huntington, Ash-

* Purchasable from the Superintendent of Documents, Washington, D. C., as House Document 266, 78th Congress, 1st Session.

land, and Ironton. At Georgetown, Ky., half of 4,500 persons exposed were attacked.

The power of a stream to absorb pollution is very great. Many rivers carry vast burdens of sewage without serious injury, but when the load becomes too heavy and too continuous the life-giving oxygen necessary to the many organisms which are responsible for maintaining the normal balance of the stream is used up—these organisms die, the stream becomes septic, and in a sense it also dies.

Stream Purification Method

In treating sewage, sanitary engineers follow the stream's own method of purification. First, solids are settled and removed to tanks to digest. The gas produced by this digestion process is being used more and more for heat and power which pays at least a portion of the cost of treating the sewage. The liquid which remains after the settling process is treated in various ways to increase the oxygen content and the bacteriacidal action. Chemicals are often used to treat the sewage further and to destroy harmful organisms.

Some cities use their settled solids of sludge as a fertilizer. Notable are Milwaukee's "Milorganite," "Toledo's Tolegro," and Grand Rapids' "Rapidgro" and "Grandgro," the latter fortified with additional chemicals. The financial return to these cities varies from an estimated eight percent to sixty percent of the cost of treating the sewage.

Factory Wastes Make New Problem

In addition to our domestic sewage, our waterways are polluted by vast tonnages of factory wastes. Pollution from this source has risen rapidly in the past decade until at present it is estimated that industrial wastes compose sixty percent of the pollutional load dumped into our streams.

Domestic sewage is a predictable quality and its treatment has been well defined, but industrial wastes, which compose a major portion of the waste that has to be dealt with, present an extremely knotty problem to treat. Industrial wastes often vary in quantity from hour to hour and their composition may change radically and unexpectedly throughout the day. The problem is so complex that sanitary engineers have only scratched the surface in their search for a solution. The problem presents such grave implications, however, that many public-spirited industries have undertaken extensive programs of research in an effort to develop satisfactory waste treatment processes, but at the pace research is moving it will take many years before the problem of industrial waste treatment is solved.

Problem of Acid Mine Wastes Is Increasing Rapidly

One very serious phase of this problem is that caused by acid mine wastes discharging into our streams. The problem is increasing rapidly in scope. It has been estimated that this daily discharge aggregated an equivalent of 4,900 tons of 100 percent sulphuric acid.

This is but a glimpse of the magnitude of the problem of freeing our streams of the dead weight of pollution. Many cities, among them longtime offenders, have become aroused to the need of freeing our rivers from this gross overload. Pittsburgh is now considering a $50,000,000 sewage treatment plant. Philadelphia has as its number one post-war project the construction of plants totaling $45,000,000; and Camden, across the Delaware, is expected to follow suit. Cincinnati will spend $17,000,000, Louisville $7,000,000 and many others are planning new plants.

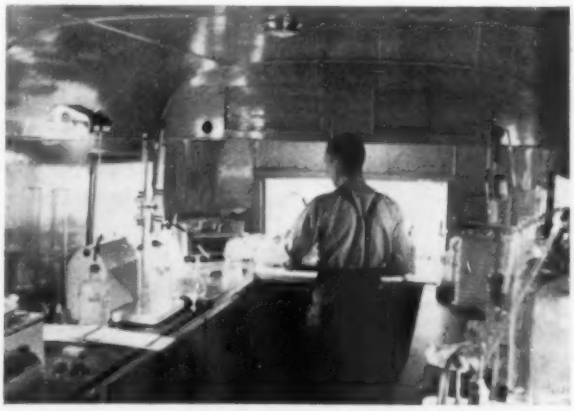
But an Augean job remains. Local inertia, politics, and the apathy of industry, have obstructed progress. It is for this reason that the Public Health Service believes the only practicable way to solve the problem is to deal with each river basin as an entity and recommends that Congress authorize all states contiguous to interstate waterway basins to enter into cooperative compacts to set up and carry out coordinated regional abatement programs. In addition, the U. S. Public Health Service would be empowered to undertake basinwide surveys, as in the Ohio; to assemble data on pollution sources; and to conduct laboratory research to evolve better and more economical treatment techniques.

Six Bills Now Pending Before Congress

Six bills providing for waterways pollution abatement now are pending before Congress. Legislation* favored by the Conference of State Health Officers and approved by the U. S. Public Health Service would authorize the federal government to extend to communities grants in aid, and to industries loans, to a total of one-billion dollars to be spread over a ten-year period, provided that equal amounts are expended by the communities and that all loans be repaid in full.

The annual financing cost of a proposed sewerage improvement program designed to liberate our waterways would total about $115,000,000—almost exactly the conservatively estimated annual economic loss now caused by pollution. Moreover, the publicly owned system, once built, could be self-supporting by charging sewer rentals. The safeguarding of public health, and esthetic and recreational values are not included in the reckoning.

* The Barkley-Spence Bill.



Mobile laboratory used in the Ohio River Survey, and, at the right, part of its interior.

Housing Bill Before Congress Proposes New Forms of Local Aid

Senators Wagner and Ellender offer bill to provide 1,200,000 houses yearly; Senator Taft files supporting report

By SHIRLEY ADELSON
Executive Secretary
Citizens' Housing Council of New York

INTRODUCTION of the Wagner-Ellender omnibus housing bill was effectively timed for the eve of V-J Day, promising "the main highway to post-war full employment": the goal of 1,200,000 homes a year, so that all Americans—notably returning servicemen—whether in cities or on farms, and whatever their income, may be decently housed.

A "true Congressional bill" in the words of its sponsors, the Wagner-Ellender bill was filed concurrently with its supporting document, the report of Senator Taft's Subcommittee on Housing and Urban Redevelopment issued after months of extensive hearings.* Rarely does a measure face the Senate so well fortified by nonpartisan and multiple committee endorsement. It represents the most coordinated thinking on housing problems ever to be done in this country, all based on a solid ten years of government experience with emergency housing measures of diverse kinds.

At the Local Level and Mainly by Private Enterprise

Of particular interest in the general approach, apparent both in the Wagner-Ellender bill and in the Taft report, is the emphasis on the determination of housing needs and solutions *at the local level* and furthermore to the greatest possible extent *by private enterprise*. As stated by Senator Wagner:

"We shall need to build 1,200,000 to 2,500,000 houses in each of the ten post-war years, to produce housing's share of full employment. This bill is designed to provide the basic tools to do this job, to do it democratically . . to do it in a way that places maximum reliance upon private enterprise, and to do it without shirking the bedrock responsibility of government to do for the people what remains to be done and cannot otherwise be done."

The "Basic Tools"

What are the "basic tools" which it is the role of the federal government to provide under this significant new proposed legislation?

1. Extensive technical and economic research to facilitate the building of better housing at lower cost and the adequate analysis of local housing needs

2. A formula for loans and contributions, to assist localities and private investors in wiping out America's urban and rural slums and providing decent housing for all the people

3. A single housing agency, such as the wartime consolidated NHA, to coordinate administration of the program.

To Write Down Excessive Land Costs

One of the principal innovations of the bill's five-year program is the proposal that financial aid be made available to cities to write down excessive costs involved in acquisition of slum sites for private or public redevelopment. The plan, which is frankly experimental, contemplates a minimum of federal contributions and interference and could be taken advantage of only by cities prepared to put up one-third of the net loss that might be involved.

Under the proposed scheme of urban redevelopment, in which the Taft report concurs, the local agency would draw up the plan and get it approved by the local government; acquire, clear, and prepare the land for redevelopment; and see to it that decent housing will be provided for displaced families. To meet the difference between the cost of land acquisition and clearance and the new fair value of the land for the uses specified in the plan, the federal government would agree to make annual contributions for not more than 45 years. The bill envisages such federal commitments in the amount of $4,000,000 in the first year, increasing thereafter so that there would be a rate of contributions of not more than $20,000,000 a year at the end of the five-year program.

In addition, federal loans would be authorized towards the cost of the projects to the extent of $250,000,000 (i.e., $50,000,000 a year for five years), repayable within twenty years at the "going federal rate" of about 2½ percent interest. Since the annual contributions would serve as security for local borrowing as well as write down land costs, it is anticipated that the federal loans of $250,000,000 could be supplemented by at least $500,000,000 of local private financing.

The bill limits the extent to which the federal government will write down land cost to not more than two-thirds of the cost; the locality would have to make up the balance if further reduction to new use value is required. There would have to be a local contribution to the construction and operation of the redevelopment project equal to 50 percent of the federal. Such local contribution might be in the form of tax exemption, installation of utilities, construction of streets, playgrounds, other public facilities, etc.

Payment of "prevailing wages" on redevelopment projects would be required.

Yield Insurance

Another novel feature of the bill is its encouragement of private capital, notably insurance and trust companies, in the field of rental housing for families of moderate income. Under the "yield insurance" plan, an insurance fund would be set up under FHA to guaranteee a 2¾ percent return after depreciation and operating expenses, at a small premium charge, to investors with a 100 percent equity in large-scale rental projects, if they agree to a limitation of rents and earnings to 3¼ percent on a fifty-year investment basis.

Low-Rent Housing

The bill also provides funds for low-rent public housing which would be "strictly non-competitive," as the rents must be at least 20 percent below those achieved by private enterprise. Five hundred thousand new public housing units are planned with additional annual federal contributions mounting from $22,000,000 in the first year to $88,000,000 at the end of the four-year

(*Continued on page 161*)

* The Subcommittee on Housing and Urban Redevelopment was constituted by the Senate Special Committee on Post-War Economic Policy and Planning. In lieu of appointing other members from the special committee, Senator Taft, Chairman of the subcommittee, was authorized to invite appointments from the two standing committees that would have to consider housing legislation. Senators Wagner, Radcliffe, and Buck represented the Banking and Currency Committee; and Senators, Ellender, Chavez, and La Follette, the Education and Labor Committee. Hearings were held from June 1, 1944 to February 7, 1945. Both the Taft Committee report and the Wagner-Ellender bill (S. 1342) were filed August 1, 1945.

Modern Sewage Works for San Luis Obispo

A sewage treatment plant enlarged to meet a wartime need provides irrigation for a municipal sewerage farm and protects a nearby creek from pollution

By R. P. HOWELL
Commissioner of Public Works
San Luis Obispo, Calif.

and

HARRY N. JENKS
Consulting Sanitary Engineer
Palo Alto, Calif.

SAN LUIS OBISPO, the largest city and county seat of San Luis Obispo County, Calif., nestles among the picturesque hills of the coast range that rises between the Pacific Ocean and the upper reaches of the Salinas River Valley.

Before the war the growth of San Luis Obispo had been a gradual one with a corresponding leisurely expansion of municipal activities and public works. But since the establishment of the great Army cantonment of San Luis Obispo within a few miles of the city, the whole tempo of life and development of this community was stepped up, at times to a feverish pitch, to accommodate the unprecedented influx of army personnel and to establish community facilities to meet the wartime needs.

All the needed municipal improvements were brought into being under the able administration of Mayor Fred C. Kimball, including notably a new source of water supply developed in conjunction with that for the army camp, and a modern sewage works for the complete treatment of the sewage of an anticipated population of 20,000. At the same time the plant provides, through a service agreement, for the handling of the sewage from the neighboring California Polytechnic School, a state institution, on the campus of which military instruction has also been carried on during recent months.

Original Sewage Disposal Facilities Outgrown

The original San Luis Obispo sewage treatment plant was an old-timer, square in plan, with a cross-flow and bridge-supported sludge-cleaning mechanism and one of the first Dorr clarifiers installed in California. Sludge from this unit was pumped into an open digestion tank, and the digested sludge was dried on open beds excavated in the ground beyond the plant.

The old and the new sewage works now have been merged into a single installation as indicated on the flow diagram. The plant is located on city property comprising a tract of land of some forty acres about a mile from the southerly city limits. This area has been developed as a sewer farm over which the plant effluent is distributed partly by gravity and partly by pumping through a system of concrete pipe lines and risers. Sugar beets are successfully cultivated on this farm. The city at present has granted a three-year lease on 35 acres of ground for this purpose. The annual revenue from this source is $1,750, which just offsets the total yearly power bill for plant operation.

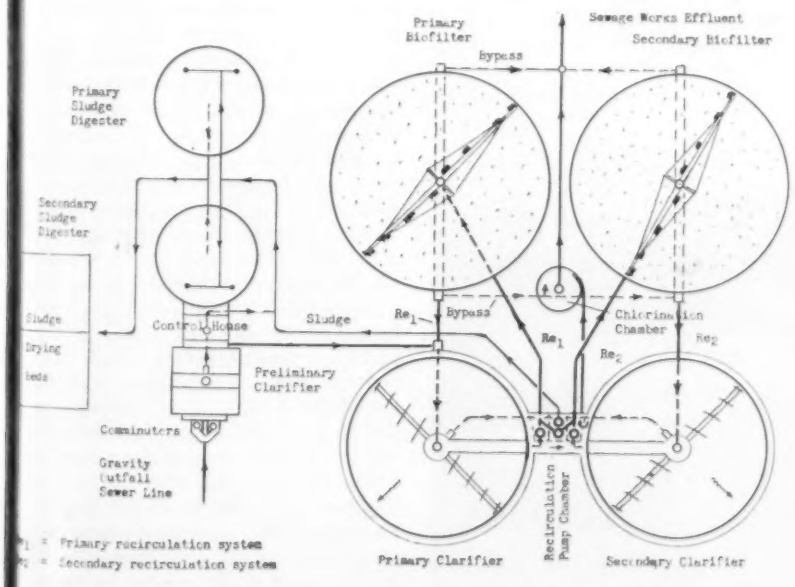
The sudden growth of the community made the San Luis Obispo sewage treatment plant quite inadequate in both flow-capacity and ability to remove the sludge to a point where the land could be worked without becoming sewage-sick. Under such conditions, also, it was clearly impossible to dispose of the effluent into nearby San Luis Obispo Creek to relieve the land of its organic burden.

New Plant Provides for Two-Stage Biofiltration

Accordingly, when the plant was enlarged arrangements were provided to give the sewage complete biologic treatment, so that the effluent could be used on the land during the irrigating season, and at other times discharged with chlorination into the creek.

The flow diagram showing the major interconnecting pipe lines of the completed plant shows how the original plant has been used in the enlarged installation, which now has a capacity of 2.2 mgd. The old settling tank has become a preliminary clarifier for grease and scum removal, and the original digester has been converted into a secondary sludge digestion tank functioning in conjunction with the new digester built immediately beyond. These tanks are respectively 45 feet in diameter by 19 feet effective depth, and 48 feet diameter by 22 feet side water depth.

The primary and secondary clarifiers, each 80 feet in diameter by 10 feet side wall depth, are in circuit with their respective 100 feet diameter by 8 feet rock bed depth biofilters by means of primary and secondary recirculation systems served by two basic pumps of 3,000 gpm each and one swing pump of 2,400 gpm capacity.



Flow diagram of the San Luis Obispo Sewage Treatment Works

All of these pumps, located in a chamber between the two clarifiers, are of the propeller type. A chlorination chamber, with bottom tangential inlet and central top overflow provides the necessary chlorine contact with the effluent to ensure a typical residual of .5 ppm.

The sewage comminutors included in the design are manufactured by the Chicago Pump Co., and will be installed as soon as available. Clarifier and biofilter equipment and the sludge pumping units were furnished by The Dorr Co. The recirculation pumps are Fairbanks, Morse & Co. units; the swing pump is equipped with a Reeves vertical variable speed drive. The primary sludge digester was designed for the future installation of mixing and heating equipment.

Adjacent to the recirculation pump chamber is a Dorrco plunger-type sludge pump with suction connections to the primary and secondary clarifier sludge drain lines and a discharge line extending to the sludge digestion tanks which operate either in parallel or in series. In the control house is a second pump for removing sludge from the preliminary clarifier.

In this house also there is installed a standard Wallace & Tiernan vacuum solution-feed chlorinator, with chlorination lines to various points of application for odor control and final disinfection. Facilities have been provided for handling one-ton chlorine containers. Other items of equipment include an electric switchboard and an effluent flow meter. In the future, suitable sludge digester heating equipment will be installed in the control house and connected with heat exchangers in the primary tank.

Digested sludge is dried on open beds and sold at 50 cents per cubic yard, without previous grinding, to those who will come and get it. Additional drying beds are planned for construction when it will pay to grind the sludge for local use as fertilizer.

A close-up of the effluent outlet of the final clarifier with the recirculation pumps just beyond.

Operating Experience

The San Luis Obispo sewage works has now been in operation since August 1943. The estimated present tributary population is 12,000. The average sewage flow amounts to 1.25 mgd, equivalent to somewhat more than 100 gallons per capita daily. As previously noted, the secondary digester is uncovered, so that sludge gas is collected only in the primary tank which has a roof and gas dome for this purpose. It is interesting to observe that the amount of gas collected amounts to an average of 6,500 cubic feet daily, or approximately .5 cubic feet per capita. If the secondary tank were covered, the total gas recovery would be increased to somewhat more than 1 cubic foot per capita, which is typical of sewage treatment plants in that region.

To maintain the desired residual of .5 ppm of chlorine in the plant effluent as it reaches the creek, an average dose of 28 pounds of chlorine per mg is required. Chlorine for odor control is seldom needed.

The total power required for recirculation and for incidental sludge pumping and periodic pumping of plant effluent to the higher portions of the sewer farm amounts to an average of 500 kwhr per day, equivalent to 28 continuous hp, of which 20 hp is for biologic oxidation. The corresponding removal of biochemical oxygen demand (BOD) from the sewage amounts to 5.5 pounds per kwhr, which reflects a very satisfactory process efficiency. The total power bill during the past year amounted to $1,800, or $4 per mg on the basis of the average daily flow of sewage through the plant. The total annual budget for operation is $6,000, an average cost for labor, supplies, and power of $13.35 per mg treated.

The original plant as incorporated in the new installation would have a present value of some $25,000. The construction costs of the enlargements and improvements amounted to $125,000 making a total plant investment of $150,000, or $7.50 per capita on the basis of the design population. The work was financed largely as a war emergency facility by the Federal Works Agency, supplemented by a cash fund accumulated by the city, including a contribution made by the state of California for space provided in the sewage disposal system for the sewage of the Polytechnic School. The Federal Works Agency was represented by Wright L. Felt, Regional Director, Los Angeles. Plans and specifications were prepared by one of the writers in association with Kenneth Beck, City Engineer, and the Monterey County Surveyors, Inc. The new plant was constructed by the F. C. Stolte Co., of Pacific Grove, Calif., under the immediate supervision of the City Engineer.

The primary trickling filter unit is in the foreground at the left. The two Dorr-equipped clarifiers are just beyond. The plant effluent is used to irrigate the city's sewer farm, part of which can be seen beyond.

Here Is Pittsfield's Airport

The new airfield at Pittsfield, Mass., serving as an intermediate landing field on the Boston-Albany airline.

DURING several years before the organization of the Pittsfield, Mass., Airport Corporation in 1928, a committee from the Pittsfield Chamber of Commerce and the Pittsfield Aero Club made an extensive survey of possible sites, finally deciding on the present field 2.7 miles southwest of the City Hall Park. The field is 1,100 feet above sea level, 63 feet higher than the center of the city, so there is ample drainage on all sides. It is 114 acres in area and is an intermediate landing field on the Boston-Albany airline.

At present the field has a runway west-northeast by east-southeast measuring 2,600 feet and 2,500-foot runway pointing, approximately north and south.

Principal items of equipment are the 51-foot steel beacon tower on the north border of the field, and a similar steel tower on Yokum Seat, south of the field. The beacon on the field is lighted only at night and flashes three white dots, indicating that it is the third beacon easterly out of Albany. It is lighted by two 250-watt lamps.

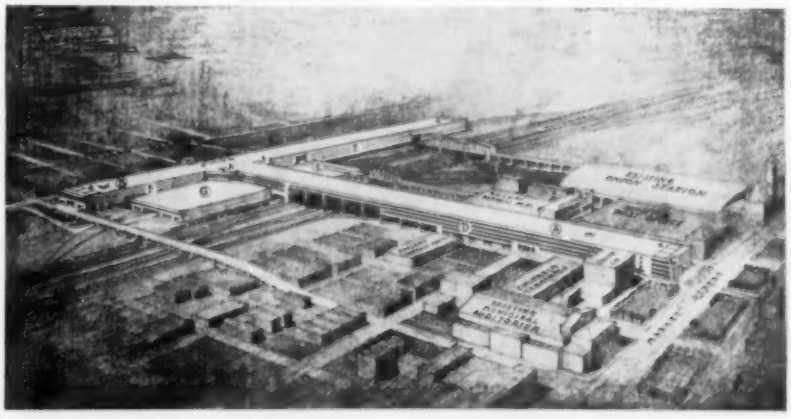
The tower on Yokum Seat was electrified in 1939 by the CAA. The field itself is lighted by 37 white boundary lights on five-foot standards and nine illuminated obstruction markers on forty-foot posts.

In-City Air Terminals for St. Louis

A COMBINATION St. Louis transportation terminal with a roof consisting of two flight decks to be located alongside the postoffice and Union Station, was discussed by Oliver Parks before a group of Pittsburgh steel executives on June 12. The project includes automobile parking space under the flight deck and train and truck transfer facilities within the main structure. Warehouse space is provided to take care of freight coming off planes, trucks, and trains. A large fruit and produce terminal and market connected with the main building permits fast handling of perishable items.

There is a possibility of this plan being put over, as Bernard Dickmann, Postmaster in St. Louis, says it is essential to the city's future as an air-mail central distribution point, a position which it holds today. Dickmann says it is necessary now to make 24 trips a day out to the St. Louis air-

(Continued on page 155)



The proposed transportation terminal for St. Louis.

Ranney Type Collectors Solve Manitowoc's Water Problem

By EARL WALTER and R. E. CANNARD
City Engineer General Manager
Manitowoc, Wis., Public Utilities Commission

MANITOWOC'S water shortage dates back to 1924 when demand exceeded the capacity of the 20-foot in diameter and 35-foot dug well located on the lake shore which furnished the city's entire supply. From 1926 to 1930 four driven wells were placed in service with a total capacity of 4,750,000 gpd. One of the new wells was in the same strata as the old dug well and the old well could not be used any longer. new well had dropped. (See accompanying table.)

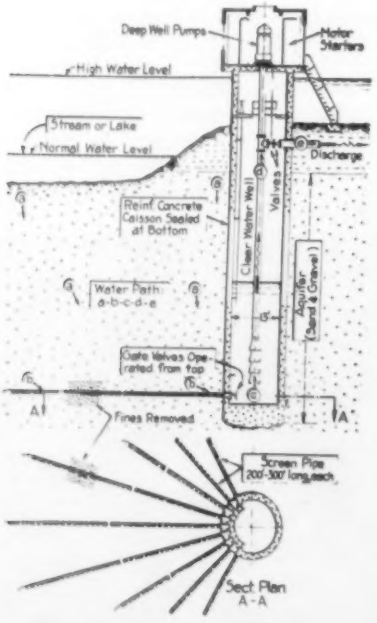
Engineers, geologists, and well-drillers were engaged to locate ground water. The previous wells kept dropping off in capacity and the demand had to be restricted. Finally in 1937 two wells were placed in service for a total of 3,100,000 gallons. In 1938 a one-and-one-half-million-gallon elevated water tank was built and in 1939 a three-million-gallon underground water storage tank was completed. By 1940 two of the wells drilled before 1930 were dry and useless. The others had reduced capacity and in 1941 restrictions were again placed on the use of water and once chlorinated raw lake water was used to keep pressure in the mains.

More investigations, surveys, and reports were made. More test holes were sunk but no adequate water supply was found. It was evident that the ground water supply in Manitowoc had been exhausted, and as Manitowoc is located on the shores of Lake Michigan, it was advocated that a filtration plant be built to supplement the well water.

HISTORY OF WELLS SERVING MANITOWOC

Well	Depth Feet	Location	Placed in Operation	Initial Daily Max. Cap. (gals.)	Present Daily Max. Cap. (gals.)	When Discon't.
No. 0	35	Near Power Plant "Mother Well"	1915	?	None	
No. 1	53	North of Reed Avenue "Schumacher Well"	1926	625,000	None	1937
No. 2	55	Near Power Plant	1926	2,770,000	2,225,000	In use
No. 3	54	Silver Creek Near Field House	1927	855,000	125,000	In use
No. 4	65	South of Reed Avenue "Rosinsky Well"	1930	500,000	None	1938
No. 5	69	Silver Creek Park Near Lake	1935	1,500,000	300,000	In use
No. 6	79	Silver Creek Park Between Field House and Lake	1937	1,600,000	700,000	In use
"B"	86	Silver Creek Park Southeast Corner	1945	10,800,000	....	....
"A"	66	In Lake Near Power Plant	1945	5,000,000	....	....

No. 2 is out when "A" is pumped.



A diagram of the Ranney water collector

Some citizens and council members felt the quality of water would be impaired if it were necessary to process lake water in a filtration plant for city use, and the question was put to the people in a referendum.

The people voted for well water. E. W. Silitch and A. d'Audiffret of the Ranney Water Collector Corporation of New York were approached by the city. They stated that a perusal of existing test wells and survey records indicated that ground water in this vicinity, even if available, was not sufficient to provide a safe supply, and that such ground water would be undesirable because of its extreme hardness and the presence of iron.

It was pointed out, however, that well number 2, which was located near the lake shore and the city's power house, was evidently obtaining its recharge from Lake Michigan through infiltration. This was clearly evidenced by its undiminished capacity for a period of almost twenty years, the variation in temperatures, which would not be the case in a ground water well, and finally by the quality of water produced, for it contained no iron, and the hardness was approximately the average of the lake water.

The Ranney engineers recommended a survey to determine whether sufficient additional infiltration would be available by the substitution of a Ranney collector for the existing infiltration well and recommended further to locate additional infiltration for future water supply development.

In this area the strata underlying the lake is either clay or other non-water bearing material but small deltas of heavy gravel and boulders were left by the retreating ice sheet. These deltas are in good contact with the lake and therefore form an ideal infiltration medium.

The results of an extensive survey during which numerous test wells were drilled in the lake and along the shore line disclosed that by replacing the existing infiltration well by a Ranney collector a substantial increase in ca-

pacity would be realized. The tests also revealed that there was a larger delta available some two miles south. Manitowoc then contracted for the construction of two collectors, one located on the lake shore south of the city limits and the other 150 feet from shore in Lake Michigan near our control point, the power plant. The geologist on the survey, Robert Reimund, and Jack Brinton, Superintendent of Construction, contributed greatly towards making this a successful project.

The collectors were constructed by first pouring a reinforced concrete cylinder 13 feet inside diameter and 11½ feet high with walls 18 inches thick. This cylinder was sunk into the ground by clamming out the ground from inside. After the first section was sunk, a second similar section was poured making it an integral part of the first and clamming continued to sink the combined sections. This process was repeated and sections added until the desired depth had been obtained. One of our collectors is 86 feet deep and the other 66 feet deep. A concrete plug was then poured in the bottom, reinforced with structural I-beams and the caisson dewatered.

We then had a large, dry, round hole with concrete bottom and sides. Ports were set in the caisson at desired elevations and positions and 10-inch flanged gate valves were bolted to the ports. An 8-inch diameter steel screened pipe with driving head was placed through the open valve and into the port. The slots in the screen pipe are ⅜-inch by 1½-inch and there are 110 such slots per foot of pipe. A hydraulic jack with two 6-inch pistons was connected to the 8-foot length of 8-inch diameter screened pipe and pressure applied to force it into the ground outside the caisson. A water and air jet was used to backwash fines and help loosen the formation around the pipe. After the 8-foot length of pipe was pushed out with only a small part of it still extending in the caisson, another 8-foot length of screened pipe was lowered and welded to the first. Pushing continued and more pipe was added until the projected pipe reached the desired length or could not be forced past some underground obstruction. This process was repeated for other positions and elevations around the caisson as required.

One of our collectors has 21 pipes with a total screen projection of 448 feet of 8-inch diameter pipe, the other has 10 pipes with 541 feet of 8-inch diameter pipe.

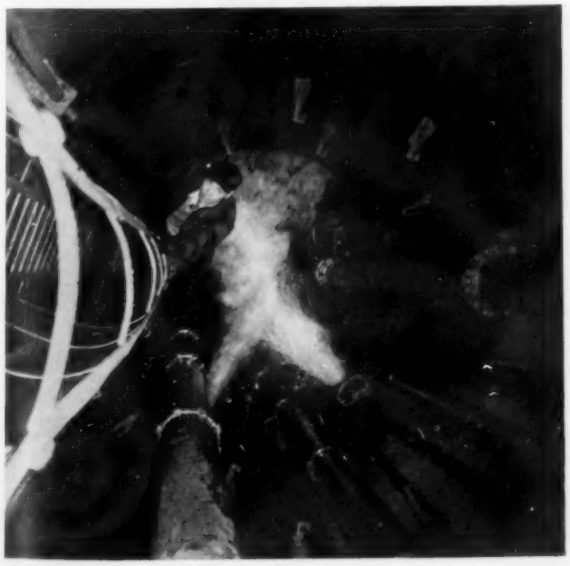
The combined firm capacity of the two collectors is just under 16 mgd. After subtracting the reduction in capacity suffered by one of our old wells which, being in the same strata as one of the collectors, is inversely affected by it, the city of Manitowoc has a net increase in capacity of over 13 mgd.

For the permanent pump installations on the collectors we have one 4 mgd Layne pump and one 2 mgd Peerless pump on one collector; on the other we have a 4 mgd Layne pump and a 2 mgd Sterling pump with provisions made for the installation of another pump on the larger capacity collector when the demand for water increases. A dual chlorinator set-up is to be used for each location, although only small quantities of chlorine are needed to maintain a minimum residual chlorine as an added safety measure. Due to the water's excellent quality, no further treatment is required.

Pouring concrete during construction of the second Ranney collector

The contractor received the maximum allowable on his contract, the city has a large economical water supply, the well advocates have well water, and the lake advocates have lake water, so everyone is satisfied and an issue in the city of Manitowoc has finally been settled to everyone's satisfaction.

At the left is an inside view of the collector and at the right is shown the test pumping of one of the collectors. The test gave a yield of 9,800,000 gpd



Young People Need Civic Responsibilities

National Youth Conservation Clearinghouse Proposed

WARNING that meeting the needs of our young people is the most serious problem facing the United States in the post-war world, Alice C. Weitz in "Youth and Your Community," * places the responsibility for wartime "juvenile delinquency" squarely in the laps of the grown-ups.

"Adults create the problem; youth suffers from our shortcomings," Miss Weitz, editor of the *General Federation Clubwoman*, declares.

"Youth and Your Community" was prepared in cooperation with the Youth Conservation Committee of the General Federation of Women's Clubs, headed by Judge Anna M. Kross of New York City, and with the advice of over thirty-five other national youth-serving agencies.

Giving practical pointers for putting a "Youth Program" into action in towns and cities, the booklet makes public a ten-point program for developing community recreation for young people.

The pamphlet criticizes as a negative approach to the problem efforts to "eliminate delinquency" and advocates instead greater opportunities for young people to become active citizens in their communities. Youth wants to be recognized; young people need civic responsibilities to become useful citizens, Miss Weitz declares. To demonstrate how young people can help solve their own problems, the author points to models for other towns to follow—"Teen Town" in New Orleans; Des Moines' church basement recreation center; Moline's youth center, helped out by the Dad's Club and Parent-Teacher Association; Chicago's Back-of-the-Yards Project; the Juvenile Delinquency court organized by the Youth Council in Idaho Falls. Seattle, San Diego, Kansas City, Newark, Toledo, St. Louis, and many other cities are working to prevent increase in juvenile delinquency and to develop sound plans for youth, the pamphlet reports.

Also described are the youth-serving programs of the Young Women's Christian Association, National Congress of Parents and Teachers, Association of Junior Leagues of America, Daughters of the American Revolution, American Association of University Women, American Legion Auxiliary, and of other groups.

The pamphlet announces that plans are now being made for a National Youth Conservation Clearinghouse to function as a consultative group through which information and programs recommended by professional agencies and authorities will be offered to interested towns and organization. Declaring that assistance is also needed from the federal government, the pamphlet warns of inadequate machinery to meet youth needs and points out that "no single group has the facilities to answer all needs or is capable of mobilizing all the resources necessary to develop a coordinated program."

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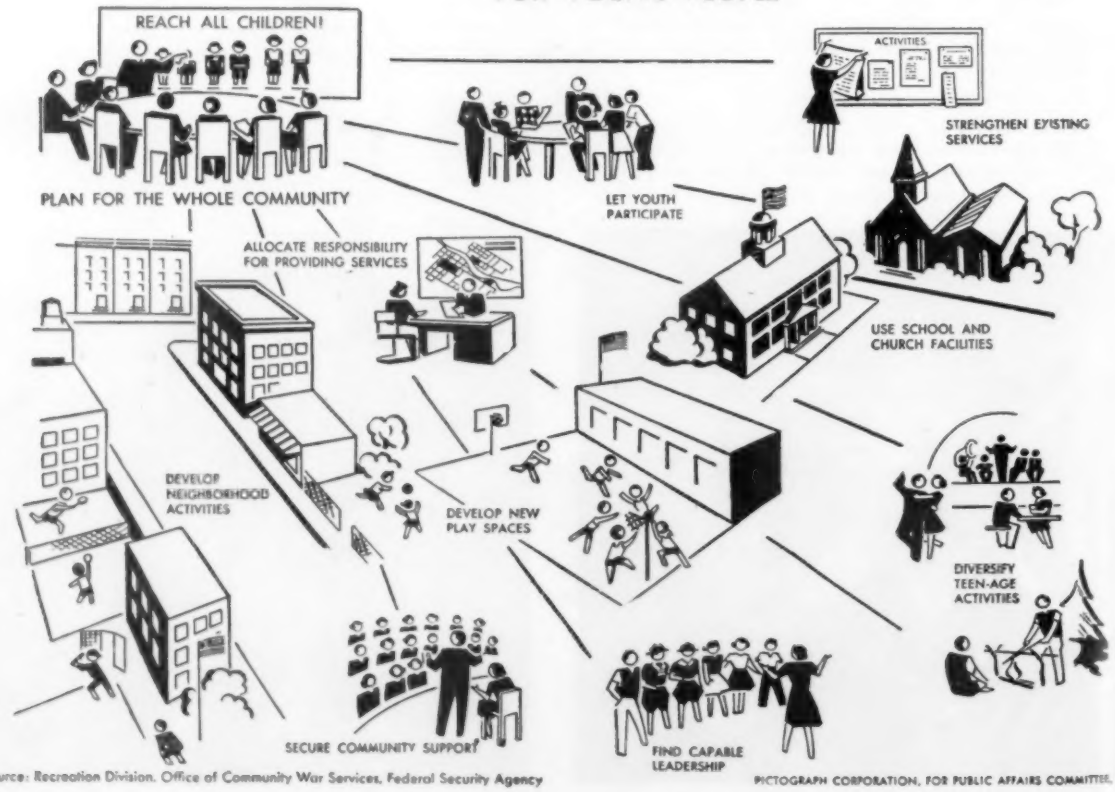
* Pamphlet No. 108 in the series of popular, factual, 10-cent pamphlets issued by the Public Affairs Committee, nonprofit educational organization at 30 Rockefeller Plaza, New York 20, N. Y.

TEN POINT PROGRAM FOR DEVELOPING A COMMUNITY RECREATION PROGRAM FOR YOUNG PEOPLE



Source: Recreation Division, Office of Community War Services, Federal Security Agency

PICTOGRAPH CORPORATION, FOR PUBLIC AFFAIRS COMMITTEE, INC.

Municipal Off-Street Parking

Size and Location of Facilities, Legal Aspects, and Public Relations Problems Subject to Review

By WALTER KURYLO
Junior Administrative Assistant
Office of the Solicitor
Public Roads Administration*

WHEN required construction materials and equipment are available, it is expected that there will be no serious difficulty in meeting the engineering and design requirements for municipal off-street parking facilities which probably are now being gradually developed into blueprint plans. However, it might be well worth the efforts of the planning engineers to re-analyze local traffic trends to determine whether each facility, or each series of facilities, will fulfill its intended purpose. That purpose may be described in terms of parking space for all cars that now can park along the curb in the vicinity to be served by the facility, and all cars that normally would like to park along the curb in the same locality, but which, because of space shortage, cannot do so.

It is suggested that studies made during the years 1939-1940 might be used as appropriate guides, with the inclusion of any wartime changes which are expected to continue into the post-war era, because in general wartime traffic conditions, coupled with gasoline rationing, do not correctly reflect traffic flow data.

Though the every-day driver may in the future reach his destination in a congested area via an express highway, he will continue to park either along the curb near his destination, if space can be found, or in a conveniently located off-street parking facility. In this respect, initial construction of a facility or series of facilities that provide more parking spaces than will be required in any particular locality would result in an unnecessary expenditure of public funds. Money thus spent could not be returned to the public coffers, and local sympathy might turn against construction of proposed additions to the program. On the other hand, if any facility or group of facilities should prove to be inadequate to handle actual traffic needs, the solution could be readily found without waste of public funds in the construction of additional facilities.

Legal Planning Must Be Thorough

The importance of legal planning with respect to parking facilities cannot be overemphasized. Every city contemplating their establishment should prepare now—if it has not already done so—to answer any of a number of objections that might be raised against these projects immediately before or during their construction. It should definitely determine that it has express authority to undertake everything it plans to do. If it desires to operate the facilities in addition to constructing them, its proposed action should be authorized. If it desires to charge parking fees and to defray operating expenses from funds raised by collection of the fees, such measures should be included in its authority.

Now that the establishment of new parking facilities held in abeyance until required material, equipment, and manpower are available may soon be undertaken, it is believed that a thorough review by municipal planners of action already taken is timely. No detail should be considered too small to be re-examined. No phase of planning—whether it is an engineering problem, a potential legal issue, or development of public opinion favoring this type of enterprise—should be overlooked.

If, however, the city desires to lease public land, or portions thereof, to private individuals for construction or operation of the facilities, it can do so only if its actions are sanctioned. Depending entirely upon the source of the city's grant of power, that express authority may be found in the state constitution, in the general or special acts of the state legislature, in the city charter or the local ordinances, or in approval obtained from the electorate. Municipalities should understand when they make this review that the courts will imply a grant in favor of the city only when the implied power in question is necessarily incidental to an express grant of power already given to the city.

Unless preliminary planning is thorough, cities will find it very difficult to satisfy the courts that an off-street parking facility is a public use. Since the success of these projects hangs in balance on this one point of law even though all other objections may be overcome, every care should be taken in the re-evaluation of the record to make certain that complete information is available for submission as evidence if the issue should be raised. Failure to have a parking facility recognized as a public use would prevent the assessment of taxes and the expenditure of public funds therefor, and would preclude the condemnation of private property for such purposes. The problem can be best handled by a comparison of the record in its present form with records submitted to the courts in cases in which the "public use" question already has been decided. Even though the cases examined may not relate to off-street parking facilities, they will indicate the kind of evidence the courts require before determining that a particular enterprise is a public use.

Public funds earmarked for other purposes should not be used for construction or operation of these structures. Recent decisions indicate that the courts do not favor the use, for these facilities, of special funds raised for street and bridge construction; nor do the courts favor their construction on publicly owned land acquired with funds raised for other special purposes. So-called "wash" transactions—the transfer of money from special funds into the city's general fund and subsequent withdrawal from the general fund of similar amounts for off-street parking facilities—would not be acceptable administrative practice.

To Anticipate and Avoid Legal Obstacles

The above-mentioned legal objections and perhaps many other technical issues, particularly those of a local nature, can be raised against the projects. All of these problems can be anticipated only through a conscientious analysis of what the city proposes to do and what it has authority to do. Existing defects in authority can be corrected through whatever procedure the city normally follows in obtaining express grants of power. Public funds can be raised solely for off-street parking facilities. However, tax assessments should conform with established procedure. If a city desires to construct such a facility on land acquired with public funds earmarked for other

* This articles does not constitute an official expression of the United States Public Roads Administration.

purposes, it can obtain possession of the land for the parking facility by transferring the required amount of money from the parking facility fund to the other special fund. Such action, of course, should follow the normal procedures within the particular community. Here, again, the city can obtain the authority to effect such a transfer of funds if it already does not have the express power to do so. The transfer would prevent unauthorized depletion of the earmarked fund from which the original purchase price of the land was withdrawn.

Failure to foresee the legal problems involved, and to remedy defects while there still is an opportunity to do so, may prove particularly burdensome to the city when it is ready to proceed with construction. If this phase of planning is not fully completed in time, any one objection—if sustained by the courts—could defer completion and use of the facilities until the questionable item is corrected or eliminated. That disputed item might well prove to be the only detail which, during the planning stages of the project, was regarded as too insignificant to be worthy of a thorough investigation.

The easiest way to gain popular approval of any new enterprise seems to be based upon an informational campaign presenting the merits of the proposed undertaking. Since some cities will require approval of the electorate before they can undertake off-street parking facility projects, it is suggested that the benefits received from these structures make an excellent topic for discussion at taxpayer group meetings or gatherings of related organizations. Among the best arguments in favor of these projects are (1) that they are far more economical than street widening, (2) they provide greater benefits than does street widening.

In the development of a parking facility, only the buildings on the land required for the facility are razed. No other property is defaced or damaged. The taxpayer pays for what he gets, and actually receives more than he pays for. The benefits he derives are the assurance of a conveniently located parking place for his car, the opening in congested areas of two additional lanes of traffic (one along each curb) formerly occupied by parked cars, and the elimination of traffic hazards caused by cars backing into and driving out of their parking places.

On the other hand, in street widening the taxpayer pays for a strip of land, six to ten feet wide, beyond the private property line and extending throughout the length of the project on one or both sides of the street. In addition, he pays for property damage done to numerous buildings facing the street, and for the cost of a new front constructed on the portion of each damaged building retained by the private land owner. And street widening actually *reduces* the amount of parking space available along the curb of intersecting streets.

Great strides have been made during the past few years in planning for municipally owned or operated off-street parking facilities. Continued efforts toward the main objective—their establishment and use as one of the solutions to the urban traffic problem—are necessary. If these facilities are to build during the period of reconversion, the time to re-evaluate the planning work already does is at hand.

Boon in War's Leftovers of Medical and Dental Equipment

AT LEAST $250,000,000 worth of surplus medical and dental equipment and supplies left over from the war, reports *The United States News*, will be available for improving health services throughout the nation now that fighting is over. Terms and conditions under which this surplus will be disposed of are now being worked out and distribution will be made on a basis of relative need. Emphasis will center on providing costly equipment and supplies needed to build up health centers in areas of the nation that have had the fewest facilities in the past. First call is to go to government institutions, state, local, and federal, and then to non-profit hospitals, health centers, clinics.

Almost all the 6,000 recognized hospitals in the country will thus be eligible for some of this equipment, as will thousands of small health centers, often providing rudimentary hospital service, that serve as headquarters for county health officers and public health nurses. All medical and dental schools will get preferred claims. (At least six states are considering establishing new schools to help make up for the expected shortage of doctors, particularly in rural areas.)

Many counties without any health services at all may be able to build hospitals and equip them from surplus stock. The new social security bill now before Congress contemplates giving federal financial aid to localities in need of hospital and health services. Allocations guided by a group of public officials, hospital, medical, and dental authorities, cooperating with the Public Health Service and state health officials, are to be made by the Surplus Property Board. Prices and terms will be quoted on a basis of public service rather than value of equipment, with leeway to quote very low prices and easy terms to communities that need improved health services but cannot afford them.

The Schools of the Nation and the Charter of the United Nations

THE SCHOOL EXECUTIVE devotes a major portion of its September issue to a series of articles interpreting to the schools of the nation the text of the United Nations Charter and the happenings at the San Francisco Conference.

The reports includes:

1. Digests of the events at the conference: the events leading up to it, the chief issues before it, its work, its results and their implications, and a brief summary of the Charter.
2. Suggestions for teaching about the conference, prepared by teachers; also a list of schools that have already inaugurated programs relating to the conference.
3. Interpretations of the conference in its relation to our schools by prominent educators.

In the preparation of this material, *The School Executive* has had valuable aid from the Department of State, in addition to the cooperation of many educators.

A specially valuable feature of this special issue will be a list of 23 suggestions indicating the wide variety of procedures that the schools can use.

In a recent letter United States Commissioner of Education, John W. Studebaker, stated: "I hope there will be widespread use of all such materials this fall in our schools because, the job of maintaining the peace, I am convinced, will be just as difficult and require even more vigilance than winning it." It is important that the schools provide an opportunity to study this important event.

The September issue of *The School Executive*, 470 Fourth Ave., N. Y. 16, N. Y., will aid greatly in facilitating such study.

A Traffic Controller That Changes Intervals Several Times a Day

THERE are times when, as a man waiting your turn to get on the other side of the street, you've watched that halting red light with foot-tapping impatience. If you are John Good Citizen as well as a city official you heed the red stop signal even when no interfering traffic is approaching. Foot-tapping at corners can ruffle even you—the city official; imagine what it does to Joe Good Citizen, your next door neighbor who isn't part of the city government system. He's not as well acquainted with the reasons for seemingly endless red lights as you are. It looks pretty dumb to him, standing there waiting, cars and people heading in his direction waiting too, and all because of a little red light. No cars approach in the main street direction. "What a system," Joe mutters to himself. And Joe isn't all wrong either. The system ought to be better. True, traffic flows are generally heaviest in one direction on this particular corner and Joe has to wait a longer period at each cross street for evident reasons. It's possible for the direction to change though, and traffic men have made it their business to find out at what hours and on what streets changes do occur. But even when they know—what can be done?

New Traffic Control System

Well, a modern, fully flexible traffic control system is being installed under the direction of the Traffic Engineering Bureau on four miles of Grand River Avenue, Detroit—a street averaging 40,000 vehicles a day with 2,000 in one direction at peak hours. The system consists of new control equipment and mast-arm mounted signals, with present curb-mounted signals rearranged for better visibility on the street. General Electric multi-dial secondary controllers are used at eighteen intersections. These controllers have two dials for changing the percentage division as traffic changes at each intersection. They change in any combination with the triple reset and remote cycle change features.

In other words, when traffic volume increases on one street, or when an exclusive pedestrian interval is needed, it is advisable to provide more pedestrian "go" time on that street. Intersections where frequent changes in traffic volume occur can be studied to determine the regularity and frequency of such changes. It is then possible to pre-set the required time cycle splits on the dials of a multi-dial controller. The dial set for a desired green interval is brought into operation. The change from one dial to another is accomplished electrically and can be done with a manual switch, but is usually automatically taken care of by time switches or a program controller. In Detroit, the triple reset provides forenoon and afternoon peak hour progression, as well as midday average progression. The remote cycle change feature allows three different system time cycle lengths. A special G-E program device permits automatic use of any combination of these features, which can be set up for different combinations each day of the week for twelve weeks in advance. Changes can be set to occur at twelve-minute intervals. All controllers are connected to a centrally located master controller.

This Is How It Works

This is what will happen when Citizen Joe comes to a simple two-street intersection where normal traffic is divided equally between the cross and main streets. He will wait at the red light on the main street while traffic moves on the cross street. Joe doesn't know it, but a timed cycle is being completed on the traffic signal and he is waiting fifty percent worth of that cycle and then he is given the "go" light. He crosses the street and if he looks back over his shoulder he will notice that the cross street cars and pedestrians are now having to wait the other fifty percent of that cycle. That's fair enough Joe decides. This whole procedure was set up on Number 1 dial of the multi-dial controller.

Later the same day Citizen Joe is ready to cross the same street corner. In the interval main street traffic increased while cross street traffic decreased. Now there is a different "percentage split" of the total time cycle making the green interval length correspond to the volume of traffic. Joe waits at the cross street, this time for more than 50 percent of the cycle. Dial Number 2 has been set, thus having the main street green lengthened and cross street green correspondingly shortened. Two hours later the traffic volume flow approaches from another direction and a third "percentage split" is adjusted by Dial Number 3. Since these different splits can be preset on the dials, then by means of external switching (manual switches, time switches, or a program drum), the correct "percentage split" can be selected simply by switching to the dial with the proper lengths of green intervals. Citizen Joe doesn't mind waiting his turn on street corners when he sees the amount of traffic he's waiting for.

Multi-dial controllers are also useful for fluctuations in pedestrian volume, as at school crossings. The "walk" cycle can be lengthened or shortened according to pedestrian traffic in the same manner as for car control.

Four of these controllers have been installed in Cleveland. Newark, N. J., and Amsterdam, N. Y., will also use them.

New Taste and Odor Control Process: A Correction and an Addition

ON PAGE 110 of the June issue of THE AMERICAN CITY, F. W. Chapman, Superintendent of the Greenwood, S. C., Water Works is quoted as reporting that "the largest dose (in the practice of taste and odor control using chlorine dioxide) we have used was .5 ppm of chlorine, etc." This should have read 5 ppm of chlorine.

Mr. Chapman reports the following experience in connection with chlorine dioxide treatment:

"We have found in the last few months that if we did not use large enough doses of chlorine in the raw water we would get a shot of organic matter through the filters and when this water with its high organic content reached the chlorine dioxide mixing chamber the whole chamber would be quickly darkened by the rapid oxidizing action of the gas on this organic matter."

Although this demonstrates the effectiveness of chlorine dioxide in oxidizing organic material, it also shows, as explained in the article appearing in the June issue, the importance of doing all possible work with chlorine in the pre-treatment in order to keep the amount of chlorine dioxide needed for effective taste and odor control at a minimum for economy's sake.

What Is in Store for the Cities? And What Can Be Done About It?

The statements appearing on pages 91-95 of this issue present the points of view of seven federal departments, agencies, or boards as to how local and national governments can best cooperate in meeting the now pressing problems of readjustment to a peacetime economy.

On this and the next two pages the discussions of the problems immediately facing our cities are by the executive directors of four national organizations concerned with raising the standards of municipal administration and city planning.

These are challenging times. May local government rise to the occasion!

More Services and Better Services

By CLARENCE E. RIDLEY
Director, International City Managers' Association

NOW that V-J Day has arrived, what's in store for cities? Many cities are in the best financial condition in 25 years, with increased revenues, less debt, and post-war financial reserves. But operating costs have increased in spite of the fact that a large volume of municipal work has been deferred and present services do not reflect post-war conditions. As servicemen are released, municipal personnel will be restored, upkeep and maintenance will be resumed, and projects deferred during the war will be undertaken. New and aggravated problems will require attention in such fields as housing, public health, recreation, and airports, to mention but a few. Moreover, the federal government will continue to take a large slice of the tax dollar and there probably will be a tendency to resent high local government costs. Thus while cities will have more to do in peacetime than they did during the war, they may have less money to do it with.

In addition to cities performing more services, there is strong evidence that the public will demand a higher standard of service than ever before. Servicemen and women returning to their home cities will bring back the experience of seeing an efficient war organization produce the required material when it is needed and where it is needed. They may be less tolerant than formerly of a ramshackle, antiquated municipal government. They also may be less tolerant of the excuses that have been offered in the past that obsolete laws or lack of funds prevent effective public health programs, decent housing, recreation facilities, and other essential public services that make cities fit places in which to live and work.

Critical Reappraisal Needed

This paradox places municipal officials in a difficult position, but not an impossible one if they will take the initiative in anticipating problems and in devising ways of solving them rather than waiting until financial pressure forces unplanned and ill-advised action. This involves the examination of information and ideas as a basis for analyzing and appraising local programs and for making recommendations to the council for next steps. Many cities are tackling this problem by making a critical reappraisal and revaluation of what is done, why it is done, how it is done, and how it might be done better.

But more important than knowing what ought to be done is the capacity of the city council and administrator to *do* something about it, rather than "let well enough alone" or "wait till the boys come home." After local policies are determined, steps need to be taken to carry out a coordinated program for improving local facilities and services. This may apply to the plan of city organization itself. The great goals our cities are setting up for themselves in the way of land-use control, construction, and services will not be successfully reached unless the city governments organize to reach them. This will require a frank and courageous attack on problems of metropolitan organization and federal-state-local relations, the integration of the municipal administrative structure to secure prompt and effective action, and a wider (and deeper) use of the management tools of budgeting, training, and planning. The post-war plan that omits these essentials is not complete.

To Minimize Improvisation's Ills

By WALTER H. BLUCHER
Executive Director
American Society of Planning Officials

SIX years ago, in September 1939, the *ASPO News Letter* carried an editorial entitled "Planning for War and Peace." One of the sentences in that editorial was, "There is no emergency in this country which demands hurried and unplanned development."

In the months and years that followed, the American Society of Planning Officials reiterated time after time the need for planning which would have us ready when the war was over. We hope, therefore, it is permissible to point out that for years the Society has urged government—at *all* levels—to prepare action plans for the inevitable day of peace, for the day when housing shortages, poor transportation, inadequate public facilities from sewers to education, will be pretty intolerable to a people who have accepted them all on a for-the-duration promise. We also gave warning of the results on employment of our necessary, but abnormal, wartime industrial economy.

A few of us here and there are ready, but the country as a whole—its cities, its counties, and its states—are as unprepared for peace as they were for war, and with less excuse. There is historical precedence for our tendency to improvise solutions to national problems. It used to work in the days when our resources were unlimited, when a second solution could rectify the error of a first one. In August 1945, however, our unlimited resources are mainly people and their pent-up will for peaceful, secure, healthful, and happy living. To use these resources wisely means we must work swiftly. There will necessarily be a lot of improvisation, but it must be good.

Many people will turn first to public works for an answer. Even if it isn't a tried and true formula, it sounds like one, and it's easy. We can always say—for it is true—that public works offer employment opportunities. We can always say—for it is true—that we need more public works. Both are, however, glittering generalities.

Public works at best will provide employment for only a small fraction of the working population. Most of the workers are not eligible by training or skill for this kind of work. There will also be a tendency to overlook the primary fact that the first test of a public work should be its social and economic desirability rather than the number of jobs it will provide.

What Kind of Communities Do We Want to Live in?

I am of the opinion that we need a sound and adequate public works program. I am not convinced that that program is at hand. Until such time as we have broad plans for the rebuilding of our communities, public works will consist largely of lists of projects gathered out of thin air, many of them admittedly serving useful purposes. The real public works needs of the country, however, will not be determined until the people in our villages, cities, counties, and states decide what kind of villages and cities and states they want to live in.

We have already had too many examples of misplaced public schools, of housing projects placed in the line of expressways, of freeways which cut through neighborhoods and destroy them, of bridges incorrectly placed. We will have more of that unless there is some sound community planning preceding the selection of isolated public works projects.

We are late with our post-war plans in this country. We shall regret it increasingly. But there are still two things we can do about it. We can follow the precept of better-late-than-never by getting to work now and staying on the job twenty-four hours a day until finished. And by resisting with sound and comprehensive planning, the siren call of too hasty public works, we can insure ourselves against the ills of improvisation. The mere fact of planning won't automatically make jobs and rebuild our cities, but without it neither task can be accomplished with permanent satisfaction to our people. It will be better to be late than sorry.

Local Government Finances

Some Suggestions for Municipal Officials During the Transition from War to Peace

By CARL H. CHATTERS
Executive Director
Municipal Finance Officers Association of the United States and Canada

1. *Make long-term commitments carefully.* Do not be stampeded into long-term, inflexible obligations by the sale of bonds, construction of improvements, new or extended services, acceptance of real estate subdivisions, or adjustments of compensation until you have examined all financial, service, and physical needs of your entire community. Of course, things are going to change, but hasty action on one matter may embarrass you later when some equally pressing service or facility is required. If local officials yield to one group without considering the needs of all, they not only invite trouble for themselves but they also make it impossible to treat all community groups fairly.

2. *Bond issues make budgets more inflexible.* When you sell a bond issue remember that you create a fixed budgetary obligation for principal and interest for ten, twenty, or thirty years.

3. *Consider operating costs as well as debt charges.* New structures and new facilities require annual appropriations for operating costs as well as debt charges or the raising of capital funds from current tax levies. There's an appropriate old slang phrase, "It ain't the original cost, it's the upkeep."

4. *Price levels will not necessarily fall.* For budget purposes do not assume that the present price levels for salaries, wages, materials, supplies, and equipment will decline. They are just as likely to stay at present price levels or go higher yet.

5. *Know what is happening to your community.* Assemble data so that you can tell when conditions start to change. Get informed about total private payrolls, total employment, bank deposits, retail sales, and scores of other items that indicate economic changes. Watch your tax collections and other revenues to see what trends develop. Basic financial data on your own government for many years back must be assembled and kept up to date to provide needed information.

6. *Have money and plans ready.* Available funds and satisfactory plans should be on hand so that the community will receive something worth while from any money that may be spent for unemployment relief. Experience has made it clear that unless a local community is farsighted and makes its own plans, some outside agency will fix many of its plans.

7. *Stabilize local government revenues.* All local governments—counties, cities, towns, boroughs, and schools—should work together with their state and provincial officials to stabilize local revenues for each unit of government. Such stability may be encouraged by a more diversified local revenue system, less fluctuation from year to year in grants in aid or shared taxes, and by federal, provincial, or state assumption of services, such as unemployment relief, where costs are unpredictable and services beyond control of local authorities.

8. *Far better local, state, and provincial cooperation is desirable.* Local governments collectively can do a real service to their citizens by organizing more effectively for work with state and provincial governments. Cooperation, not conflict, is needed.

9. *Codify local finance laws.* State and provincial governments, or public official organizations, should codify the local government finance laws for each state. There is no other way by which the local officials can know the legal powers and legal limitations on their activities.

10. *Local finance officers should direct the thinking on local financial matters.* In the period of transition from war to peace, the finance officers will have a chance to demonstrate their technical ability and their leadership in local financial matters. These suggestions are aimed to help them to discharge their community obligations.

To Improve Municipal Management

By H. G. POPE
Executive Director
Public Administration Service

AFTER policy determinations have been made relative to municipal post-war services and programs, there remains the challenging task of translating them into action. The degree of success with which this is done will depend very largely on the city's capacity to develop and operate a greatly improved administrative mechanism geared to these new tasks. There will be even more than ordinary need for the city official to evaluate administrative organization and practices with a view to introducing newer, better methods.

Particular attention should be given to possible improvements in general organization and management systems affecting in some degree all of the city's operations. Sometimes this will involve the modernization of the governmental structure through the drafting of charters, statutes, and ordinances to permit the establishment of an organization and practices which are more efficient and better adapted to the handling of new and emerging problems. In many cases it will be necessary to give attention to the improvement of financial administration. Rapidly changing employment conditions, coupled with the return of the veterans, will accentuate even further the present need for more effective systems of personnel management. The need for comprehensive planning as an integral part of municipal government now has general acceptance in theory, if not in general practice.

Many Challenging Opportunities

Similarly, every advantage should be taken of opportunities to improve governmental service operations. There are many cities in which municipal officials would find it possible and profitable to improve departmental management: organization; plant, equipment, and materials management; service standards and procedures; work schedules, cost systems, records and reporting—whether these aspects of management apply to public works and utilities or to police, fire, health, welfare, institutions, education, library, recreation, housing, and other services which the municipality may perform.

To sum up: the city's job now that the war is won is the satisfactory performance not only of those tasks that its citizens have always needed to have done, but also of those new services and operations that the post-war era will necessitate. This burden compels municipal officials to make enlightened and maximum use of staff, research, and reference facilities, insuring the meaningful recording and analysis of their experience and current capitalization on the experience of others. A progressive management laid on this foundation will immeasurably assist the municipal official in keeping abreast of his problems—perhaps under strange circumstances—with credit to himself and to his city.

Community Redevelopment

ENACTMENT of Assembly Bill 1531, now the "Community Redevelopment Act," carries out one of the major recommendations of California's State Reconstruction and Reemployment Commission.

"Studies by the Commission show that in many cases, the run-down or deteriorated areas in California cities are the result of faulty planning," says Colonel Alexander R. Heron, State Director of Reconstruction and Reemployment. "One of the basic requirements of the urban redevelopment legislation just signed by the Governor is the setting up of master plans by local planning commissions before communities can proceed to rid themselves of the breeding places of crime, delinquency, and disease, and rebuild to create clean, healthy, wholesome environments."

The general provisions of the act give the legislative body of a community the authority to adopt ordinances by a two-thirds vote, designating one or more "blighted areas" either upon the initiative of the body or through petition by an individual or a group of citizens.

Legal procedure is then provided through the city's planning commission, for the adoption of a redevelopment plan, following which a redevelopment agency is set up to carry out the project. This agency, consisting of five citizens, is appointed by the mayor of a city or chairman of a board of county supervisors.

The agency is given authority to assemble property within a "blighted area" through purchase, lease, gift or grant, or eminent domain. The plan for lease or sale of the property, for development by private enterprise, must be presented before any action is started by the city or county.

31 Years as Mayor

Frank C. Cain

THE veteran mayor of Cleveland Heights, Ohio, Frank C. Cain, has announced his intention to retire from political life on December 31 next. For the last 31 of his 65 years Mayor Cain has been the chief executive of the suburban community which he has seen grow from a village of less than 3,000 population to the present city of some 60,000.

Prominent articles in *The Cleveland Plain Dealer, The Cleveland Press,* and *Cleveland News* testify to the exceptional ability of the Cleveland Heights Mayor as a community leader and municipal executive. Here are two paragraphs from the "In the News" column of *Cleveland News* Editor N. R. Howard, who refers to Frank C. Cain as "a modern Yorkshireman, a type of fellow forever half angry about what he sees as the Right:"

"The tough Yorkshireman has run the Heights all this time by the strength of his sturdy personality, and citizens who don't know him very well incline to shudder at his autocratic appearance. All the same, the paving doesn't wear out very fast in his suburb; the city services are tops for Greater Cleveland; there isn't any debt; Cain Park Theater furnishes our most popular summer amusement; the Cumberland pool swimmers take the medals; and—mark this—it is the only suburb that at some time or other in the last 35 years hasn't had some kind of a police force scandal. Maybe picking chiefs with college degrees and FBI training has something to do with this last.

"I haven't been able to think of anyone in our Cleveland public life who has done so much so long with such scant attention from the monument builders."

How Joint Action of Nine Cities Met Greatly Expanded Water Needs

With careful operation and federal cooperation, the East Bay Municipal Utilities of California doubled the water supply with 28 percent less personnel

By J. S. LONGWELL
Chief Engineer and General Manager
East Bay Utilities District
Oakland, Calif.

THE metropolitan area on the east side of San Francisco Bay, is composed of the cities of Oakland, Berkeley, Alameda, Richmond, El Cerrito, Albany, Emeryville, Piedmont, and San Leandro. Some 20 years ago, these nine cities joined together in the formation of the East Bay Municipal Utility District, which was created under state statutes and authorized to acquire, construct, and operate works for supplying water, power, light, heat, telephone service, transportation, sewage disposal, and other utility service. The primary reason for its formation was to develop and make available an ample supply of water and insure the future development of the entire East Bay area. Later, a large adjacent unincorporated area was annexed to the original nine cities, so that at present the total area of the district is approximately 190 square miles.

Sources of Water

The principal source of water is the Mokelumne River, fed chiefly by the melting snows on the western slopes of the Sierra Nevada mountains. Pardee Dam, constructed by the district on the Mokelumne River about forty miles northeast of Stockton, is a concrete structure 358 feet high, which creates Pardee Reservoir with a capacity of 68 billion gallons. This structure was placed in operation in 1929. Water is brought down to the district from Pardee reservoir through a 94-mile aqueduct. The outlet works at Pardee Dam, the tunnels, and all features where the expense of enlargement would be out of reason, were constructed with an original capacity of 200 million gallons daily, the safe yield of the development. The steel pipe section of the aqueduct, mostly 65 inches in diameter, extends for 82 miles between the Pardee and Walnut Creek Tunnels across the San Joaquin Valley. This section of the aqueduct has a capacity of 42 mgd with gravity flow, and 67 mgd with pumping at a booster station located near the town of Walnut Creek. The original plans contemplated the construction of a second and third steel line across the San Joaquin Valley as additional capacity was needed to take care of the future growth of the East San Francisco Bay area.

Supplementing this mountain supply, the district owns and operates four reservoirs in the foothills back of the East Bay area, which collect stream flow from their respective drainage areas and which, with a storage capacity of some 33 billion gallons, provide a safe yield of approximately 20 mgd. These reservoirs also serve as terminal reservoirs for the aqueduct, and facilities are available for storing Mokelumne River water in them by distribution at or near the end of the aqueduct.

When war was declared in December 1941, the district was serving approximately 590,000 persons. Water consumption in the previous fiscal year of 1940-41, which ended on June 30, 1941, was 46 mgd as shown on the accompanying graph. It is estimated that the total population served in 1945 is approximately 850,000. The consumption of water for the fiscal year ending June 30, 1945, will be approximately 98 mgd.

Things Begin to Hum

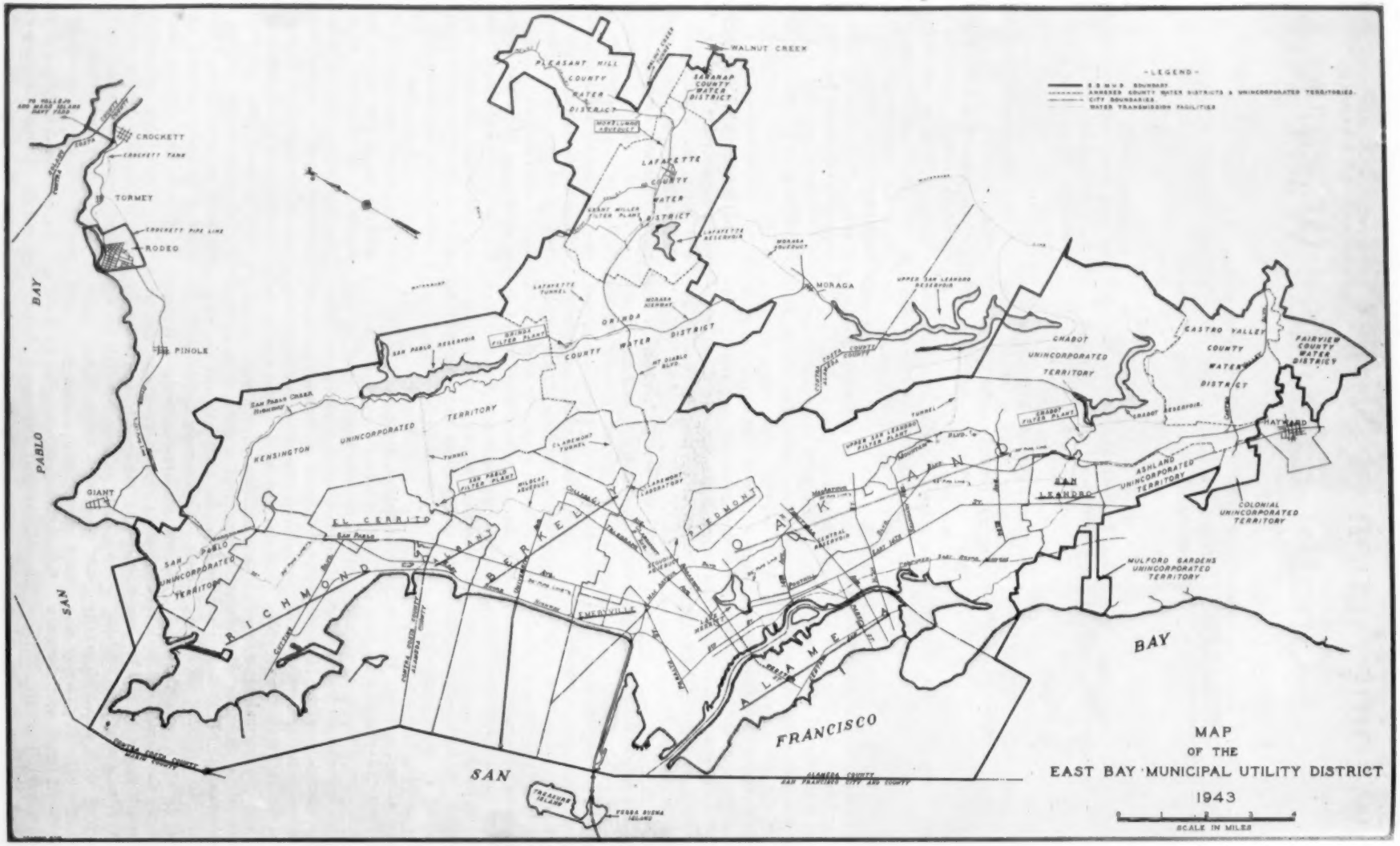
With the advent of war, Army and Navy activities in this area were immediately stepped up, existing bases and camps were expanded, and many new facilities were built to take care of the increasing demand for training military personnel and for shipping supplies to the Pacific theater of operations. An extensive industrial development took place, involving the enlargement of existing plants and factories and the construction of many new ones to produce materials for the war program. Shipbuilding operations already well started were materially enlarged, providing for the building of transport and supply ships as well as naval craft. These many new activities, of course, required the bringing in of large numbers of war workers and their families, which, in turn, necessitated an extensive housing program.

New Distribution Facilities

The expansion of Army, Navy, and industrial activities resulted in a rapid increase of water consumption, as indicated on the graph. In order to satisfy this enlarged demand, it has been necessary to increase the capacity at two of the District's five filter plants, to construct eight new pumping plants, and to install 152 miles of pipe ranging from 4 to 36 inches in diameter at various locations throughout the entire distribution system.

The largest individual increase in water consumption was in connection with the Mare Island Navy Yard. Water for this yard was, prior to the war, supplied entirely by the city of Vallejo. The tremendous increase in ship construction and repair and the increased population at Vallejo to take care of the workers made it necessary for the District to furnish water to Vallejo to the extent of nine mgd. Water was delivered to Vallejo at Crockett through an existing line which extended from Richmond to the town of Crockett. Additional capacity was obtained by the installation of some 5,300 linear feet of 16- and 25-inch pipe, together with the construction of two booster pumping plants on the pipeline. With these new facilities the flow was raised from a gravity supply of approximately five mgd to a pumping of 13 mgd. The large demands for Vallejo and Mare Island, together with the greatly expanded requirements of the Kaiser shipyards in the Richmond area, also made it necessary to install six miles of 36-inch steel pipe between San Pablo Filter Plant and the city of Richmond. This project was carried on in cooperation with the Federal Works Agency and involved the expenditure of something over $500,000.

An additional supply was also required in Alameda to take care of the greatly enlarged Naval Air Sta-

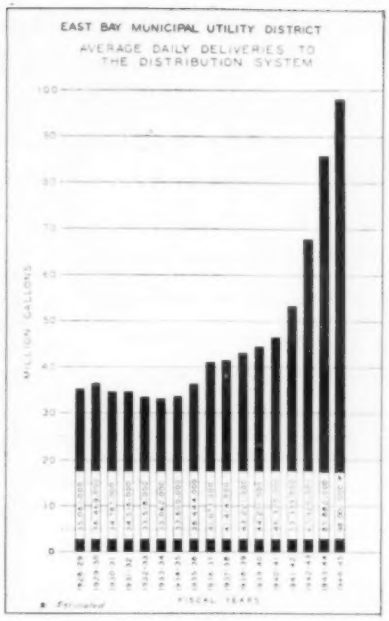


This map shows the East San Francisco Bay area and the various parts of its water supply system, which is operated by the East Bay Municipal Utility District. These same municipalities voted on November 7 of last year to form a sewage disposal district to be operated by the East Bay Utility District in an effort to clean up the waters of the Bay.

tion and the numerous shipyards in that city. The necessary capacity was obtained by the installation of some 2.4 miles of 12-, 20-, and 24-inch cast iron pipe and booster pumping plant.

Thirty-five hundred linear feet of old 36-inch line which had been abandoned for a number of years due to poor condition were rehabilitated and placed in service in order to provide better distribution of the supply from our largest distribution reservoir which is in East Oakland. A 16-inch line, 3,900 linear feet in length, was also installed along the western and southern waterfronts in order to carry additional water to the Naval Supply Depot and Camp Knight, the large storage and forwarding base for the Army. The following tabulation gives the amount of pipe installed during the last four years for the purpose of taking care of the distribution of these increased demands:

1941-42	47.78 miles
1942-43	43.18 "
1943-44	33.26 "
1944-45	27.30 "
Total	151.52 miles


EAST BAY MUNICIPAL UTILITY DISTRICT
AVERAGE DAILY DELIVERIES TO THE DISTRIBUTION SYSTEM
MILLION GALLONS
FISCAL YEARS

This graph shows how rapidly water consumption increased in the past three years.

Another large project now under way is the installation of 1.1 miles of 24-inch supply line extending from a transmission main in Oakland to the west end of Alameda. This will involve the installation of a submarine line under the Oakland Estuary, an important arm of San Francisco Bay with a 40-foot depth of channel. Materials have been purchased and advertisements are being prepared covering the installation of the necessary facilities. The War Department is cooperating on this project which is being undertaken in connection with the activities of the Army Air Technical Service Command. The line will also increase the supply and the general facilities for meeting the increasing demands in Alameda. The estimated cost is approximately $300,000.

Increased Aqueduct Supply

As the District's consumption began to exceed the supply available from the aqueduct plus the yield from the local sources, it became necessary to take steps to increase the amount of water which could be carried through the Mokelumne Aqueduct. Since the capacity of the aqueduct with pumping at the Walnut Creek plant was insufficient to meet the requirements of the District, it had been planned for many years to construct a second pipeline paralleling the original installation. Due to war conditions it was not possible, of course, to obtain the necessary steel to construct some 82 miles of line and, furthermore, it was essential that the additional supply be provided as soon as possible in order to guarantee against any possible shortage that might result from deficient runoff. Studies indicated that a pumping plant could be constructed near sea level in the San Joaquin delta approximately 50 miles east of Oakland by means of which the flow through the aqueduct could be increased from 67 mgd to 95 mgd. Preliminary plans were worked out for such a plant and the matter was presented to the War Production Board for authorization and also to the Federal Works Agency for assistance in financing the proposed program. The cost was estimated to run to approximately $730,000. The Navy Department also had requested additional water for several new bases along the route of the aqueduct and gave its support to the plan.

Through the cooperation of these various agencies, arrangements were made for the proposed installation. The necessary equipment has been purchased and construction work is now in progress on the pumping plant. It is expected to go into service some time in the fall of this year. The Walnut Creek plant, located some 32 miles west of the Bixler plant near the town of Walnut Creek, will operate in series with the Bixler plant, with three units in service instead of the two as used under the present plan of operation. With the Bixler plant in service, the available safe yield of the District facilities will be approximately 115 mgd. As shown on this page, it will be noted that the consumption as estimated for the full fiscal year 1944-45 is 98 mgd. It seems probable that consumption will increase somewhat during the next fiscal year, after which it is anticipated to drop as the war in the Pacific theater comes to a close and the demand for water by Army and Navy installations and industrial plants now engaged in war production decreases.

Regardless of the fact that the consumption of water in the District has more than doubled during the war, while at the same time the personnel was reduced by 28 percent, it has been possible, due to the loyalty and efforts of the entire organization, by careful operating practice and through the cooperation of the various federal agencies, to meet the increased demands with no shortage of any kind. The District is proud of its record in meeting all wartime demands.

Post-War Construction

Throughout the war period, plant additions have been confined almost entirely to the reinforcement of the system to meet all demands and to the installation of facilities to take care of Army and Navy needs, war industries, and war housing projects. It has not been possible to carry on the usual program of replacement of mains and other equipment nor to provide new plant additions for handling anticipated growth.

Provision is being made in the development of post-war construction plans for the replacement of mains which has been delayed during the past four or five years. In addition, a definite and scheduled program is being worked out covering improvements to the system to take care of anticipated future growth. This program covers the installation of new and larger mains, the enlargement of filter plants, work on spillways at some of our terminal reservoirs, construction of new distribution storage reservoirs, erection of branch office buildings, construction of buildings at the District's general Corporation Yard, and the continuation of a definite erosion control program in the watersheds of the terminal reservoirds.

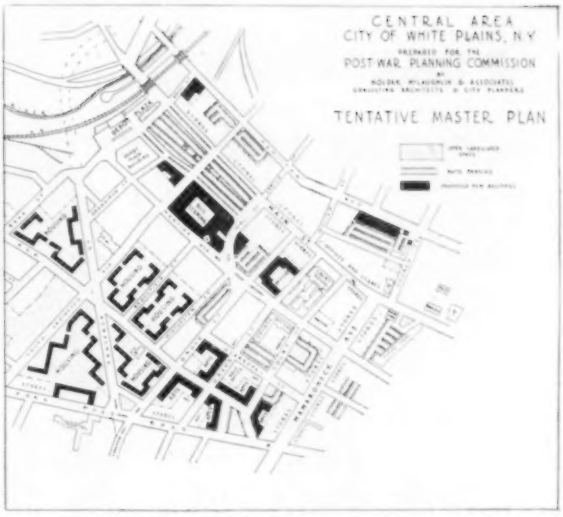
Detailed plans are now in progress in connection with all of the various features of this program, and it is estimated that the total expenditure involved will amount to some $5,300,000. Plans are already developed to the extent that work can be started on short notice, particularly on a large amount of pipe installation work for the purpose of reinforcing, extending, and improving the distribution system.

This brief statement regarding our facilities and products may be of interest to newcomers in the water and sewage works fields and may also serve as a reminder to the experienced. Our several foundries, representing the largest plant capacity in the industry, produce Super-de Lavaud centrifugally cast pipe in 12- and 18-foot lengths and diameters up to 24 inches—pit cast pipe in sizes up to 84 inches—with bell-and-spigot, mechanical and flexible joints or with plain ends—and fittings of any size or practicable design. Our headquarters and plant laboratories maintain rigid production controls. Our technical and sales engineering staffs, backed by 45 years of experience, are at your service.

U.S.
cast iron
PIPE

U. S. PIPE & FOUNDRY CO.
General Offices: Burlington, N. J.
Plants and Sales Offices throughout the U. S. A.

Drawing by Dean Cornwall



Replanning a Central Business Area

Action Urged Under New York State's Urban Redevelopment Laws

CONSOLIDATION of properties into planning units for the purpose of rearranging open spaces, as a major device for overcoming the tendency towards blight and obsolescence in central urban areas, is recommended in a report* by Arthur C. Holden, of the firm of Holden, McLaughlin & Associates, of New York, to the Post-War Planning Commission of the city of White Plains, N. Y.

The report points out that good land use means not only the efficient planning of buildings but also the efficient planning of spaces between buildings. Ground coverage in White Plains is not excessive even in the business area. The opportunity is still open for the arrangement of well organized parking areas to take care of the automobiles of the county-wide shopping clientele which the city enjoys.

It is proposed to overcome the difficulty of a long, narrow Main Street by creating a wide parking mall extending from the railroad station half way to the important intersection of Main Street and Mamaroneck Avenue.

A few significant quotations from the report follow:

Changing Conditions Require a New Approach

"The question must be met as to why municipalities, which have gotten along well enough in the past, are today confronted with the need for a new kind of planning. In the past, American cities grew as a result of the insight and originality of men of enterprise. Such individuals were sensitive to the natural current of development. They anticipated special needs, such as a store at the cross roads, a trolley to an outlying section, a warehouse beside the railroad. Original enterprisers deserve just reward for services rendered. True enterprisers, however, are followed by imitators who lack originality and understanding. These imitators seek to buy up what they consider strategic sites and wait for a rise in values. Because they often hold property out of use, they tend to turn development elsewhere. Imitative speculators tend to keep the price of central land above the point of economic return. Thus barriers are raised against the natural course of development.

"Developments outside of the city offer the clearest opportunity to get away from complications. This is a threat to the future of the city. Consequently, to hold its population and retain the usefulness of central land, the city has got to tackle the job of making it simpler to operate in many of the neglected central districts. Originality must be used in seeking workable economic, commercial, and social remedies. Understanding must be applied to clearing away unnecessary complications."

Ways and Means

To bring about a better distribution of land use a method was sought for making changes with the least possible dislocation of the life of the city.

The program recommends a rearrangement of public and private properties, but it anticipates that, after the replanning, the properties returned to existing owners will have a far greater potential value than their present individual isolated holdings.

Before any physical plan was discussed, consideration was given to ways and means. It became obvious that improvement through sale and rebuilding of individual parcels would be altogether too slow. Reliance upon governmental subsidy for a wholesale clearance and rebuilding seemed uncertain and undesirable. To quote further from the report:

"Ways and means were studied for carrying out the proposed program without resorting to sweeping subsidies. After many conversations between the Commission and its technical advisers, the conclusion was reached that the most effective means for carrying out the step-by-step redevelopment which is advocated would be the utilization of the recent urban redevelopment legislation and collateral laws that have been enacted in New York State.*

"Powers have been granted by the state which will permit plans to be put into execution for general improvement, after the consent of 51 percent of property owners has been obtained. Authority has also been granted to various types of trustees who may be holders of mortgages or real estate to exchange their holdings for an interest in a corporation formed under the redevelopment laws to undertake large-scale improvements. The power of eminent domain has been authorized and may be used by a duly authorized corporation to enforce adherence to an improvement plan.

"The relations between the city and an Urban Redevelopment Corporation will permit as great a variation in method as under private enterprise in the past. The only point of difference is that urban redevelopment legislation has made it pos-

(Continued on page 157)

* "A Plan for the Central Business Area, City of White Plains, N. Y."—See page 165 of this issue.

PEACETIME ATTRACTION

Soft WATER FOR HOME AND INDUSTRY

Brisk postwar competition will apply to cities as well as commodities. One sure way to help attract new citizens—and make present ones happier—is to provide a modern, efficient water supply.

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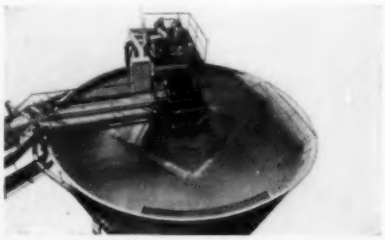

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WATER CONDITIONING HEADQUARTERS

Scientific Wage Analysis for Municipal Employees

The operation of a city government has become a business. Why not apply business methods of wage and salary determination to help solve the problems of post-war pay adjustment?

By ARTHUR W. TODD
Councilman
City of University Heights, Ohio

IN the city of University Heights, Ohio, wage rates have been at subsistence levels for many years, as the high proportion of vacant land within its boundaries did not permit sufficient income to provide proper pay for its officers and employees. Recent developments have increased its revenues, and the Mayor and Council were confronted with the problem of deciding which jobs should have their rates increased, and how much. Raises generally have been the subject of too much personal or political pressure, or comparison with rates in other communities where the levels may or may not have been fairly determined. Therefore, the Finance Committee of the Council was requested to study each job, determine a basic rate and range of pay on the basis of industrial systems, and present a report for discussion. Where possible, officials and employees of the city were to be paid at least the minimum shown for their jobs, and more if their work on the job justified it.

We here summarize the details of this plan, believing that the method can be used to advantage in many cities. The reader must bear in mind that the purpose of the survey is to analyze jobs and evaluate jobs, without reference to the person who fills the job, or how he does it. When the survey is completed, if you find that a man is not worth the minimum pay for his job, he obviously should be transferred to a job of lower grade. Likewise, if a man deserves more pay than the schedules permit, a transfer to a job of higher responsibility is indicated. In certain labor classifications, cities were obliged to pay more than the jobs are worth, due to war conditions and the general shortage of labor. Differences of this sort are labelled as "availability factors," with the assumption that a resumption of more normal labor conditions after the war will cause this differential to disappear.

Point System Based on Industrial Experience

Following the methods of General Electric Company, The Lincoln Electric Company (of which the author is Assistant Credit Manager), and other leaders in the field, we prepared a list of the different characteristics or qualifications required in each job, based on the following tabulation in points:

	Non-executive	Executive
Base points—all jobs	400	400
Education	100	150
Training on the job	100	300
Analytical ability	100	300
Initiative required	100	300
Need to contact public	100	300
Responsibility for life, property, city equipment	100	260
Mental or physical application above routine clerical job (Mental 70%, physical 30%)	100	100
Working conditions — degree worse than clerical job	100	—
Dependability, accuracy	—	65
Executive leadership	—	325
Total maximum points	1,200	2,500
Maximum rate ($2.50 per point)	$3,000	$6,250

This table gives the maximum number of points to be allocated for any aspect of any job. In every job, the minimum of 400 points, as a base, is awarded. This is on the basis that the lowest sort of job requiring no skill or education of any kind will still be worth something just for the effort contributed toward it. In University Heights we felt that a maximum we could pay for any non-executive job is $3,000, and the maximum for any executive job, with elective and part-time jobs omitted from consideration, is $6,250. Thus, the multiplication of points for any job by $2.50—which is $3,000 divided by 1200, the maximum of points for non-executive jobs—should yield the basic rate for the job. On this basis the minimum job, which perhaps could be that of a girl of high school age performing some very simple operation, would represent a minimum and be awarded 400 or perhaps 450 points, and be paid somewhere between $1,000 and $1,150.

The determination of points for each of the jobs, in each classification, is the difficult part of this work. We treated education and training on the job on the basis of number of years required. For all jobs, 7½ points were allotted for each year of school we require in the education of the employee for each job. In industry, both qualifications are rated on a parabolic curve, which gives more points, in proportion, for the first months, or years, than for the later years. In education, we felt that equal weight should be given for each year, as educational training becomes more complex as the years go by. In evaluating training on the job, we followed the industrial method and allotted more points for time spent at the beginning, on the basis that each employee learns most when first on the job. On this basis, points for time spent were as follows:

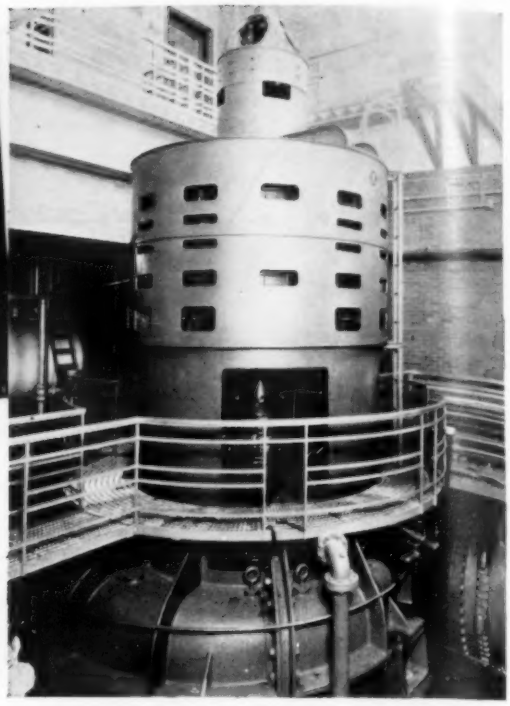
	Non-Executive	Executive
One month	15	—
Two months	22	—
Three months	27	—
Six months	37	—
Nine months	45	—
One year	50	70
One and a half years	65	—
Two years	75	100
Three years	100	125
Five years	—	165
Ten years	—	240
Fifteen years	—	300

In all other evaluations, points are determined by considering all jobs in the non-executive category, and all jobs in the executive category, in relation to one another, allocating the top number of points to that job which requires the maximum of the qualification under study; the others being rated in order of descending number of points down to the job which requires the least. On the theory that each job has a minimum requirement in each qualification, at least ten points are allotted.

Procedure in University Heights

The procedure mentioned immediately above differs from that followed at General Electric in two ways. Industry provides curves of values sloping upward for rating these qualifications, the net effect of which is to magnify the difference in points between higher and lower grades of the executive scale. This was omitted, and a "straight-line curve" was followed in University Heights because we fel

OVER 80% EFFICIENCY PUMPING 870,000,000 GALLONS PER DAY



Buffalo had a big assignment—a $15,000,000 sewage-treatment plant on Bird Island. Some of the largest-capacity sewage pumps ever built would be required: six main pumps, each with a capacity of well over 100,000,000 GPM. Also, seven additional feeder station units would be required . . . 4 units at South Buffalo Station, 3 units at Hamburg Station.

The Buffalo Sewer Authority, working with Greeley & Hanson as designing and consulting engineers, and McCarthy Bros. & Fond, Contractors, selected Worthington Centrifugal Pumps.

Here are some facts about these Worthington Pumps that are now operating at an overall efficiency (pump and motor) of 81.93% at 23 ft. head. Each main pump has a capacity of 120,000,000 GPD under 23-ft. head and 145,000,000 GPD against 18 ft. head. Four pumps are driven by 550 HP, vertical synchronous motors at 180 RPM, two by double vertical synchronous motors at either 180 or 156.5 RPM. The Combination provides maximum operating flexibility of capacity range from 55,000,000 to 335,000,000 GPD without sacrificing efficiency for any combination of capacity and head.

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Diesel engines, gas engines, steam turbines, compressors and vacuum pumps, portable compressors and air tools, turbine well pumps, water softening and filtering systems and water meters are among the many other products carrying the Worthington trademark into sewage plants across the country. Backing these products is an engineering staff available to you —wherever you are, anywhere in the world—in selecting equipment of proper specifications.

More complete information on the Bird Island installation can be read in Bulletin RP-155. At the same time ask for Bulletin W-313-B2 which describes Worthington Axial-Flow and Mixed-Flow Centrifugal Pumps for low and moderate head services. The latter bulletin also contains useful information on selection, arrangements, engineering data and a report on Worthington installations which demonstrates a nation-wide confidence in the statement that *there's more worth in Worthington. Worthington Pump and Machinery Corporation, Harrison, N. J.*

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WORTHINGTON

WAGE ANALYSIS—NON-EXECUTIVE DIVISION

CLASS	Police	Fire	Garbage	Rubbish	Road	Day Desk Man	Night Desk Man	Clerk Police Court	Rubbish Driver	Garbage Driver	Road Driver	Road Foreman	Office Girl	Max. Points Non-Exec.	Max. Points Exec.
Base points	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
Education	90	90	30	30	30	75	60	75	60	60	60	60	90	100	150
Job training	100	100	27	27	37	50	50	50	37	37	45	75	50	100	300
Analytical ability	100	100	10	10	10	75	50	75	50	50	50	100	25	100	300
Initiative	100	75	10	10	10	75	75	75	50	50	50	100	25	100	300
Contact with public	100	50	50	50	50	100	50	100	50	50	50	50	75	100	300
Responsibility for equipment—property & life	100	100	25	25	25	75	100	100	75	75	75	100	20	100	260
Mental or physical application	60	60	60	60	60	75	50	85	75	75	75	100	25	100	100
Working conditions	80	80	60	60	60	20	10	20	60	60	60	100	20	100	
Dependability and accuracy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	65
Executive leadership training	...	...	...	...	...	...	...	...	...	...	...	...	...	...	325
Total	1,130	1,055	672	672	682	945	895	980	857	837	845	1,085	730	1,200	2,500
Total: $2.50 per point	2,825	2,637	1,680	1,680	1,705	2,362	2,240	2,450	2,142	2,142	2,162	2,712	1,825	3,000	6,250

that substantial pay differentials between different executive grades was neither possible financially or sound personnel policy. In addition, the industrialist uses several different scales for cases where the need to contact public, or other qualifications are "ordinary," "additional," "great," or "very great." We felt that this system, and a further refinement of trying to determine how much of each employee's time was devoted to the use of the qualification being studied, were inapplicable to a small city. They are mentioned only to provide a clear picture of what we did and did not do.

The analyst who wishes to do this work should provide himself with a complete list of city employee positions, with existing pay or pay range indicated, and should either be familiar with or have in writing a description of the duties to be handled on each of the jobs considered. A chart is then prepared, listing the various qualifications to be evaluated, and their maximum points at the left and the jobs to be analyzed across the top. Figures for each evaluation are then inserted in columns, and the columns totaled to give the base points for each job. Each base rate is then to be multiplied by a factor which will produce a scale of pay which suits the municipal budget. The city will then have to determine how much of a range for the pay on each job shall be allowed in fixing the compensation of the employee. In industry the range is plus or minus 10 percent of the base, generally; municipalities may find a more restricted range of plus or minus 6 percent better suited to the rather narrow range between top and bottom pay characteristic of city jobs. The figures determined should not be accepted as final without a comparison with existing rates in the city and similar cities, nor without consultation with city executives familiar with the requirements of each job.

Once a schedule is adopted, each employee can be rated in a similar manner on the basis of A, B, C, or D for the extent to which he exceeds, fulfils, or fails to fulfil the various qualifications which have been listed. This in turn will determine whether he should receive top pay or be promoted, be paid the base rate, the lower rate, or be transferred to another job.

For More Adequate Control of Special Assessment Procedure

TO AID in avoiding "the pitfalls and extravagancy" that followed the "boom years" after World War I, the Municipal Finance Officers Association urges municipal officials to make intelligent use of special assessments as a device for minimizing overexpansion of undeveloped tracts of land.

In a report released August 15, the Association suggests that as a matter of sound business practice municipal officers should apply one important question in connection with property scheduled for improvement by special assessment: "Can the district in which the improvement is to be made actually pay for the cost of the installations?"

The report points out that the subject of special assessments is of growing concern to local officials faced with a post-war era of new public improvements, repairs to existing facilities, and the platting and developing of new subdivisions, and advances three factors of prime importance in connection with ability of a property to repay a municipality through special assessments for funds spent on improvements.

1. The "tax picture." A detailed, thorough, and complete survey should be made to see if the properties to be assessed for new improvements have been able to pay the general and special taxes already levied.

2. The ratio of the proposed assessment to the assessed valuation of the property is another matter to be studied carefully. Is the new improvement too costly compared to the value of the property?

3. Finally, if the tax situation is favorable and the improvement is warranted, an advance deposit should be required sufficient to cover a substantial part of the total cost of improvement. This requirement should be regarded as a necessary safeguard not only to the municipality but to the taxpayer at large.

As one example of results of inadequate planning and lack of proper control of the use of special assessments to finance local improvements, the Association says sewer and water mains have been charged against hundreds of thousands of properties on which houses were never built. Such inadequate control and lack of planning and of strict zoning legislation led directly to higher tax delinquency, necessitating refinancing and refunding of special assessment bonds.

Hawley S. Simpson Is Now a Consulting Engineer

HAWLEY S. SIMPSON, since 1929 Director of Research at the American Transit Association, has opened his own transportation engineering office at 1405 Locust Street, Philadelphia, Pa.

With ATA, Mr. Simpson developed the first comprehensive, authoritative data on urban street capacities, for which he received the Arthur M. Wellington award from the American Society of Civil Engineers. He was one of the original instigators in stabilizing the taxi-cab industry, working with the cities and regulatory bodies for proper restrictions. During the war he was a consultant to ODT and served as chairman of a committee which devised war time regulations for traffic signal operation.

Enough Said!

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Full Employment Bill

(Continued from page 5)

asserts that private industry is to be the exclusive basis of the American economic system.

Full Employment as a "Right"

Discussing full employment as a "right," Mr. Sullivan says:

The basic principle of the bill is expressed in two declarations. One is: "All Americans . . . have the right to . . . full-time employment." The other is: "It is the policy of the United States to assure the existence at all times of sufficient employment opportunities to enable all Americans . . . to exercise this right."

If these words and phrases are interpreted one way, they might justify concern; if interpreted another way, there would be no concern.

If the "right" is a right in a formal legal sense, if it is a right in the same sense as the right to a vote, that would be one thing. But if the word "right" is here used in the same sense in which the Declaration of Independence uses it, when it says that all men have a "right" to the pursuit of happiness, then this bill is no more socialist than the Declaration of Independence is.

The bill itself shows that it is in this latter sense the word "right" is used. Observe that the bill does not at all guarantee employment for everybody. "Jobs for everybody"—though that is the way it is often put. What it assures is a quite different thing, "employment opportunities." What the bill means is that the government shall follow such policies—about industry, agriculture, taxation, the tariff, what-not—as will result in full employment. This is no more than what has always been the objective of the Republican and Democratic parties. What the bill calls full employment, they have called prosperity, or good times.

Revocation and Revision of WPB Controls

With the termination of hostilities, War Production Board controls are being revoked and amended priorities regulations issued in large numbers. For municipal officials who wish to keep up to date as to such new regulations and as to machinery and materials available through the Surplus Property Board, prompt and efficient information service is offered by the National Institute of Governmental Purchasing, Albert H. Hall, Executive Director, 730 Jackson Place, N. W., Washington 6, D. C.

Fall Conference on City and Regional Planning

THE Massachusetts Institute of Technology announces that its ninth annual Conference on City and Regional Planning will be held October 22-November 2, 1945. Sponsored jointly by the Institute and the American Society of Planning Officials, it will be open to men and women who have had practical experience in planning or in a related professional field, including planning technicians, members of state or municipal planning commissions and housing authorities, and staff members of engineering or public works departments.

Seminars will be held each morning and afternoon, beginning Monday, October 22, and will cover principles and techniques of planning and planning legislation and administration. Emphasis will be placed on technical and administrative procedures and the application of approved planning standards rather than on a generalized discussion of the various planning problems.

The staff for the Conference will consist of Frederick J. Adams, Professor of City Planning; Flavel Shurtleff, Associate Professor of Planning Legislation and Administration; Homer Hoyt, Associate Professor of Land Economics; and Roland B. Greeley, Assistant Professor of Regional Planning. Visiting lecturers on special topics will assist in the conduct of the seminars.

The fee for the two weeks' Conference is $50. Applications should be sent to Professor Frederick J. Adams, Division of City Planning, Massachusetts Institute of Technology, Cambridge 39, Mass., not later than October 1, 1945.

Following the two weeks' Conference, a special ten-week training course will be held during which specific projects will be developed in the drafting room, supplemented by library research and round-table discussions. This course, together with the Fall Conference, will be similar in scope to the short training course given at M.I.T. during the spring of 1944, except that particular emphasis will be given this year to problems of urban redevelopment. Those interested in the training course should write to Professor Adams at M.I.T. for further information.

Waterbury's Water Supply Plans Pay Off

(Continued from page 100)

trol station, which, in turn drive the pumps, boosting the water drawn from the Morris reservoir an additional 105 feet into the high service supply. Water passing through the turbines to drive the pumps is discharged into the Wigwam reservoir to supplement the low service supply. The new control station connects the Morris and the new Pitch reservoir through the new pipe line and furnishes control over both the low and the high service supplies, as the low service may be served by reducing valves through the new pipe line. Consumption before the war averaged about 7.5 mgd with a maximum use of 15 mgd; this past year the average use has been 13 mgd with a maximum draft of 25 mgd.

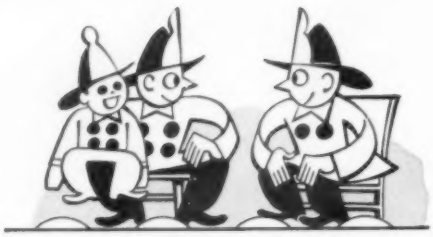
L. G. DeFelice & Sons of New Haven was contractor on the dam. The Turbine Equipment Co. constructed the high service control works. Malcolm Pirnie of New York was the consulting engineer on the entire project. Work was carried out under the Engineering Department of the city of Waterbury with Charles A. Root, City Engineer, and Henry C. Whitlock, his assistant, in charge.

Break-Point Water Treatment

Waterbury's raw water is soft with 25 to 35 ppm $CaCO_3$ and has a low percentage of suspended solids. Treatments of this water has been simple and direct, consisting for the past few years of super-chlorination followed after a forty minute contact period by dechlorination. This has just recently been supplanted by the more easily controlled break-point chlorination; super-chlorination with its subsequent de-chlorination will be used only when the quality of the raw water seems to require a higher charge of chlorine.

The present treatment requires about 2.5 ppm of chlorine. When algae growth is high, larger doses may be necessary. Water works superintendent Herbert Scott Smith endeavors to carry dechlorination to the point which assures water with a chlorine residual of .5 ppm entering the distribution system.

The high service control house which at present treats water from the Morris reservoir though it can take water directly from the Pitch reservoir. This station is interconnected with the low service supply.



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The Airport Enigma

(Continued from page 105)

Permanent Airport Planning Committee Recommended

How can your city go about getting such a plan? Each metropolitan area should have an Airport Planning Committee, Commission, or Authority, or some similar responsible body adequately representing the region, having power to inform itself as to the facts, to plan for the regional airport needs *and to recommend ways and means of putting the finished plan into effect.* It is strongly urged that this be a permanent body, so that the experience of its members may be cumulative. Your city and county planning commissions and the office of the city engineer will usually have most of the necessary background information about your community—the trends in its growth and the habits of its population. Their combined staffs can sometimes be made available for the preparation of the plan. It has been undertaken that way in some localities; in others, the services of a consulting firm have been retained for this purpose.

The first duty of the Planning Committee should be to prepare an estimate of the communities' needs; second, to determine what now exists (and to appraise how well it works); third, to prepare an over-all ultimate plan, seeking to perpetuate the best of what is now available, and rounding out the pattern with what is deemed most likely to be adequate in the future; and, fourth, to prepare a program under which the finished plan may be put into effect in progressive stages as the needs materialize.

You don't know enough about airports to undertake such a job? You can get the advice of men who do for the asking. The Regional Office of the Civil Aeronautics Administration nearest you will be glad to discuss airport planning with you, and give you the benefit of their expert knowledge of site selection and detailed design. The Airport Service of CAA in Washington maintains an Urban Planning Section with a staff of consultants who will gladly do their best to get you started along the right lines. All you have to do is write the Director of Airports, Civil Aeronautics Administration, Washington 25, D. C., and request such assistance.

Don't be misled into believing that the airport problem will solve itself. It won't. On the other hand, don't think of it as a staggering prospect. It isn't. This is one means of transportation that does not require miles of paved rights of way, expensive roadbed and track, or deepened channels over which to travel. It requires occasional tracts of land on which safe landings and take-offs may be made. It needs those in convenient locations.

Compared with most other municipal obligations, this one is relatively simple. There is no question about whether or not you can afford to tie up the necessary sites until they are needed. *You can't afford not to.* And suppose the estimates are high, and you won't need them all? Then you won't lose a dime. I can think of a dozen community uses for the land, other than airport use. You can raise potatoes on it in the meantime if you don't need it for an airport and still get your money back. But you won't be able to do anything about it if you let the available, suitable sites get away from you now.

Every municipal official responsible for aviation and airport matters—whether planning, design, construction, or management—will find three booklets prepared by the Civil Aeronautics Administration invaluable. These are: "Airport Design," and "Airport Planning for Urban Areas," and "Small Airports," available from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 20 cents each.

Greenbelts for Canada's Big Cities

By A. E. PERKS
Chairman, Montreal Municipal Press Gallery

CANADA'S two leading cities, Montreal and Toronto, are looking forward to including a "green belt" in their future lay-out. Both have included provision for such a belt in the master plans of which they have already laid down the main lines, and for the further perfection of which they have set up special study committees composed partly of experts and partly of public representatives, as well as highly specialized and capable planning departments.

Both cities have decided to avail themselves of the help nature has given them along this line, and have begun to lay plans in keeping with their respective topographies. Consequently the two cities have very different, although equally good, plans.

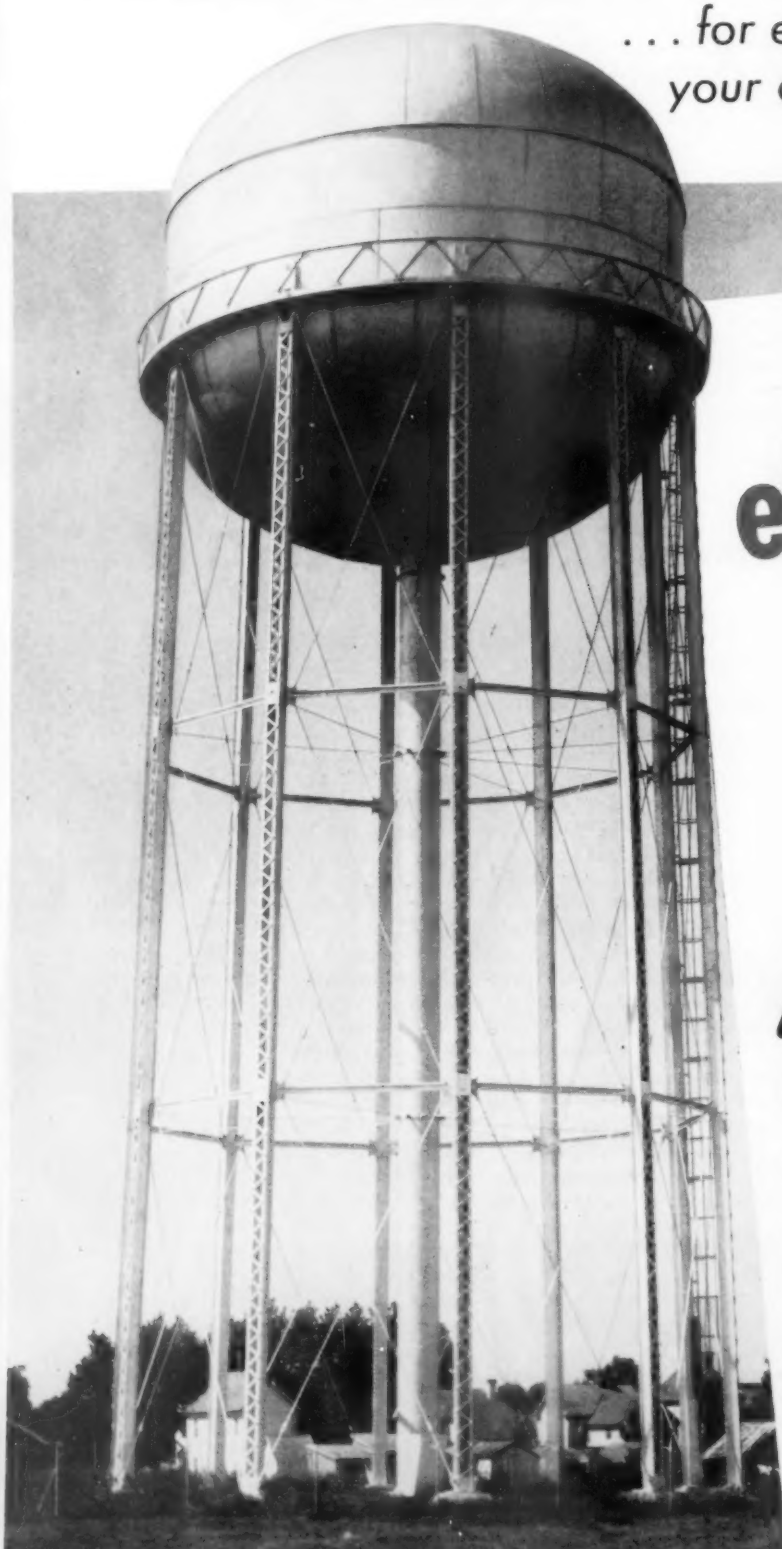
Toronto is on the northern shore of a great inland sea. Montreal is on an island somewhat like Manhattan, although the city, unlike New York, is still far from filling the whole island.

Toronto has three streams running toward the big lake in its vicinity. Following the direction of these streams there are a series of ravines which push through its outlying sections, and offer a natural site for the "green belt," which will be in the nature of a long, winding parkway, mostly park but with a driveway, too tortuous ever to become a speedway, running through it. The parkway will follow one ravine for a considerable distance, then cut through the city to join another ravine, and so on until the last ravine brings it back to the banks of the lake from which the first ravine started.

Montreal's "green belt" will be the irregular periphery of a constellation of parks, of which Mount Royal, right in the center of the city, will form the "green nucleus." Along the harbor front an elevated speedway will take motorists rapidly yet scenically through the busy shipping section of the riverside. At the western extremity of this route, where it comes down to surface level and joins the Provincial highway, the green belt will begin, probably with Angrignon Park; it will move northward from park to park, linking each two parks with a broad parkway, until it swings eastward between the north shore of the island and the northern slopes of the mountain. Then, working southward, picking up some parks that now exist and several more to be created, it will reach the present vast Maisonneuve Park, with the Botanical Gardens, city golf course and tennis courts and the sports center not yet completed. From there, it will quickly reach the riverfront and form a new parkway along the lines of Riverside Drive westward until it reaches the eastern end of the elevated speedway over the docks. There it will also meet the scenic Jacques Cartier Bridge to the mainland. At various points in the circle, smaller parkways will connect the main greenbelt with the green center, Mount Royal.

USE OUR PLANNING SERVICE **NOW**

. . . for early improvement of your community water supply



elevated steel tanks

by PITTSBURGH · DES MOINES

Modern water storage, in a Pittsburgh-Des Moines Elevated Steel Tank designed and built to meet the present needs and future growth of your municipality, provides constant supply at uniform pressures, better fire protection, lower operating costs year in and year out. These advantages, deferred for many communities by war conditions, can be realized sooner when restrictions are removed if your plans are complete and ready. We'll be glad to help — our engineers are at your service, without obligation. Write today.

PITTSBURGH · DES MOINES STEEL CO.

PITTSBURGH, PA., 3412 NEVILLE ISLAND—DES MOINES, IOWA, 913 TUTTLE STREET

NEW YORK, ROOM 917, 270 BROADWAY · CHICAGO, 1216 FIRST NATIONAL BANK BUILDING

DALLAS, 1217 PRAETORIAN BUILDING · SAN FRANCISCO, 619 RIALTO BUILDING

SEATTLE, 520 EIGHTH AVENUE, SOUTH

A City and a Borough Look Ahead

Six-Year Program of Public Works for West Allis

THE city of West Allis, Wis., has now under consideration a proposed six-year public works program submitted after a year of intensive study by a special committee consisting of Mayor Arnold H. Klentz as chairman, and Arthur L. Wichner, Superintendent of Public Works; Peter H. Burbach, City Engineer; Harry B. Nash, Superintendent of Public Schools; Irvin F. Knoebel, City Comptroller; and John C. Doerfer, City Attorney.

Projects to cost an estimated total of $3,983,643 are recommended, all of which, it is believed, can be financed during the six-year period out of an existing "improvement fund," supplemented by current revenues.

Projects Are Varied

New water mains, sanitary and storm sewers, street improvements, bridges and underpasses, street lighting, a new incinerator plant, improvement of the fire and police alarm system, additions and improvements to school and library buildings, a community war memorial building, and an additional fire station, are among the projects proposed. The report points out that:

"In arriving at its recommendations, the Post-War Planning Committee followed a policy of concentrating as many departments of service in one building or in one area as would be practicable. It is the committee's belief that permanent cost of maintaining additional structures can be eliminated by the process of locating subdivisions of municipal government in one structure."

Private Industry Cooperates

In addition to the specific plans outlined in its report, the committee urges the mayor and common council to give attention to improvement needs which are to be carried by private corporations, but which do affect the welfare of its citizens and the general physical condition and appearance of the city:

"First of these is smoke abatement. With new mechanical devices available at the close of the war, smoke from chimneys other than those of private residences should be practically eliminated. Street railway lines should be modernized wherever practicable. . . . Overhead electric power lines should be removed from the city's streets and placed in alleys or in underground cables.

"The plan for a large, general hospital for public use is now being promoted by a private organization and when completed will serve a need that has been in evidence for many years. Another project that will add to the city's position as a modern community is a contemplated hotel and recreation building by the YMCA of West Allis. Cooperation with retailers for the purpose of creating automobile parking facilities is necessary to the progress of this city."

In a letter accompanying the report the committee says:

"Your committee has held more than forty meetings, including special hearings with municipal boards, commissions, committees and department heads, as a means of giving careful consideration to all recommendations submitted for public improvements. Throughout its deliberations, the committee has kept in mind the fact that the city of West Allis is free from debt. Its recommended program is designed to continue the 'debt free' policy of the Common Council."

Mayor of Lincoln Park Tells His Story

THE Borough of Lincoln Park, N. J. (population 2,186 in 1940) has a mayor who believes in keeping the citizens fully informed as to the activities and needs of the local government; so Mayor Charles O. Spongberg prepared an annual report of some 7,000 words in which these subjects were covered under 32 headings. But no appropriation was available for publication of the report and the little local newspaper, the *Lincoln Park Herald*, did not feel that it could afford to donate the four pages needed to publish the document in full. So Mayor Spongberg, though serving without compensation, provided, with the aid of some of his friends, the necessary funds, and the report was published in full in the *Herald's* issue of June 28.

Radio Communication for Police and Fire Protection

On the subject of police protection, the Mayor reports that a complete study and investigation of two-way radio communication systems was undertaken. It was found that over 75 percent of the progressive communities of New Jersey had installed such systems and testified highly to their efficiency in giving additional protection to the people of the community.

"In our study [says the report] we found that our citizens wishing police protection in an emergency . . . had to call three numbers and still could not obtain the necessary help. Today, under the present system, all the citizen is required to do is to call one number . . . where he will receive an answer 24 hours a day. His message is transmitted to the police car regardless of its location, and help is forthcoming properly and when needed. . . . Such service is costing the Borough $5 per month or $60 a year, and I ask any sound thinking citizen if this is a waste of the taxpayers money?"

Safety Lanes Around Schools

As a result of a conference of the Mayor, the President of the Board of Education and a committee of its members, and representatives of local and state police, plans are being made to lay out safety lanes on the public streets in and around the borough school to protect the children walking on the public highway.

Developments in the Fire Department include the purchase of a full set of modern lighting equipment for fighting fire at night. Two modern fire fighting machines are at the service of the community and the department has cooperated with the various neighboring local fire departments.

Water Supply

Mayor Spongberg has this to say on the topic of water:

"Our Borough cannot hope for real progress until we have installed a borough-wide water system, with proper fire protection. This matter has been under discussion and consideration all during the war period, and as soon as materials as well as manpower are available, conference will start on this project where the public will be fully informed through the local press, public meetings, and a committee of citizens consisting of the most qualified citizens in the borough regardless of political affiliations."

Snow and Garbage Removal

His suggestions about snow and garbage removal are interesting:

"At the proper time, your Mayor proposes to lay before the members of the Council for due consideration a proposition for the purchase of proper equipment for municipal operation of snow removal, the carting of road materials and removal of garbage throughout the borough. Such services now being serviced by contract, if taken over by the borough under proper conditions would require the engagement of three or four citizens to work on a full week time basis and would permit repairs to all roads, improved or unimproved under proper supervision and no doubt under a great saving to the taxpayers."

This is the first time in the history of the borough that any public official, serving without compensation, has reported to the people directly at his own expense.

...and endures through the years in service!

STARTING from the time you load its 13-foot lengths onto your trucks . . . continuing during its rapid assembly in the trench . . . and lasting throughout its long, dependable service underground, Transite Sewer Pipe makes important contributions to more efficient, economical sewage disposal.

Check these money-saving advantages:

FAST INSTALLATION. Transite's light weight means easier handling; its long 13-foot lengths reduce the number of joints in the line, speed up assembly.

LESS INFILTRATION. Its floating sleeve-type joint combines flexibility with tightness . . . guarding against costly infiltration and cutting down on the load at the disposal plant.

HIGH DELIVERY CAPACITY. The smooth interior surface of this asbestos-cement pipe assures high delivery capacity . . . frequently permits smaller pipe, or flatter grades with correspondingly shallower trenches.

CORROSION-RESISTANT—outside, inside and all the way through! Transite's high corrosion resistance has been proved in countless installations, under a wide range of soil conditions.

If you are planning sewage works projects for the days ahead, you will want all the facts about Transite Sewer Pipe. Brochure TR-21A is free on request. Address Johns-Manville, 22 East 40th St., New York 16, N. Y.

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville TRANSITE *SEWER* PIPE

FOR EFFICIENT, ECONOMICAL SEWAGE DISPOSAL

Community Revitalization—by the Citizens

By PARK H. MARTIN
Executive Director
Allegheny Conference on Community Development

COMMUNITIES are not unlike most humans. When they get older there is often a tendency to let down, to get into a rut, to care little about appearance, to take the future for granted.

Many communities and regions have fallen prey to this weakness of age. The Allegheny area, the heart of which is historic Pittsburgh, is no exception. Not that all communities in this region have let themselves go, but there are some that are in need of a tonic.

The citizens of this region, determined to revitalize their area, are applying the tonic through a diagnostic clinic, where experts in their respective fields review analyses and tests and from them formulate recommendations which will serve as tonic "serums." This clinic is known as the Allegheny Conference on Community Development.

Birth of the Idea

The idea for the organization was first proposed in 1943 by Dr. Robert E. Doherty, President of Carnegie Institute of Technology in Pittsburgh, when he brought together a number of leaders from all walks of life to discuss the possibility of obtaining cooperation from citizens and public and private agencies, looking towards the improvement of the region as a place in which to live, work, and play. At this meeting a Citizens' Sponsoring Committee was organized, which established the Conference as a non-profit educational organization, supported by individuals, industries, foundations, and corporations.

The members of the Citizens' Sponsoring Committee are outstanding leaders of this area and represent many interests and points of view—education, business, labor, industry, commerce, finance, civic, private, and public agencies. In the Conference, however, each serves as a citizen interested in the welfare of his community.

It was decided that the Conference would study the problems of the region and act in an advisory capacity with other citizen groups and existing organizations, avoiding duplication of effort and bringing about a correlation of programs, staffs, and resources. The Allegheny region—and particularly Allegheny County—is peculiar in its makeup because of the many and varied communities within it. Allegheny County alone has 127 separate municipalities. However, Conference leaders recognized that most local problems are problems common to all and that if they worked together the entire region could be improved.

Actions of the Conference are made known through newspapers, radio, magazines, reports, and media of all types, in an effort to inform all agencies and the general public of the plans and to secure their support.

A Three-Year Program

The Allegheny Conference plans are based on a three-year program of investigation of the Allegheny region problems and recommendations for their solution. To date its actions and recommendations are evidence that the Conference will prove its worth as a clinic for local and regional betterment. The Pennsylvania Post-War Planning Commission has officially signified its desire to use the services and facilities of the Allegheny Conference in carrying out the purposes of the Commission within the Allegheny Region.

The broad scope of its regional interests is illustrated by the list of working committees shown on the accompanying organization chart.

Major considerations governing its policy are:

1. The construction cost of regional projects under consideration by various committees of the Conference are estimated to total from $300,000,000 to $500,000,000. These costs must be weighed against such intangible items as public health, cultural advantages, and economic benefits.

2. Some projects taken up for study may be found to be financially unsound or not within the range of immediate accomplishment by either public or private agencies. General agreement on this will result both in conservation of civic energies and in financial economies.

3. The program so far evolved by the Conference is one that cannot be undertaken by any single civil subdivision. Some of the work is of a public nature and some of a private one. Some requires close public and private cooperation—as, for example, stream pollution elimination. The only way the entire program can be carried on is through an organization such as the Conference.

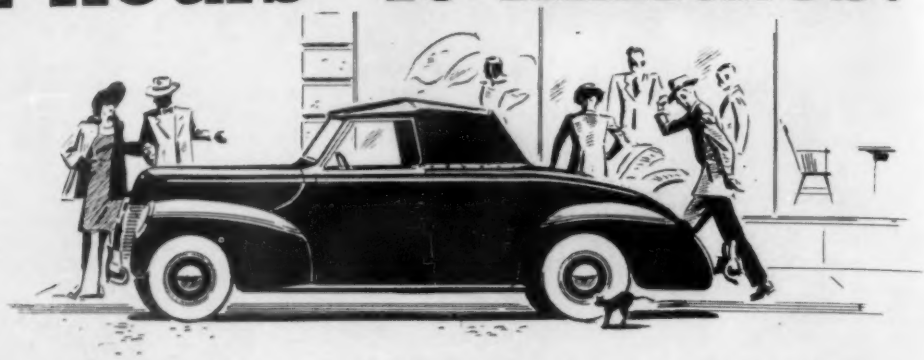
Personnel

Officers of the Allegheny Conference on Community Development are: Robert E. Doherty, Chairman; Edward R. Weidlein, Vice Chairman; Vincent W. Lanfear, Treasurer, and Wallace Richards, Secretary.

The Conference staff is represented by: Park H. Martin, Executive Director; Harry Kodinsky, Public Relations Counsel; Dr. Lawrence H. Guild, Director of Research; Dr. Max Nurnberg, Housing Consultant; C. K. Harvey, Planning Technician; Elisabeth Mellon Sellers, Research Associate; Mrs. Lois E. Gregg, Office Manager, and Eleanor Eckels, Librarian.

Organization chart. Plans are based on three years of investigation.

2 hours - 43 minutes!



Two hours and forty-three minutes is the **average** *curb parking time revealed by a study made recently in the business district of a large* **(non-metered)** *American city.*

Engineered for Service

Adds the report:

"NOW is the time for the proper authorities to take action toward meeting an impending critical condition on city thoroughfares—or the postwar volume of cars will find us unable to cope with the strain imposed by the extra traffic."

All motorists deserve a "break" when they drive downtown to shop or transact business. But they don't get it while long-time parking remains uncontrolled. Local merchants suffer, too.

The answer is metered parking—brought to its highest development in *Duals.*

Dual automatic parking meters are easy to install, economical to maintain, simple to operate.

Timing flag visible from both street and sidewalk. Fool-proof mechanism. Tamper-proof lock. Made of the best materials, wear- and corrosion-resistant. More are already installed and giving satisfactory service than any other two makes combined.

Send for free bulletin describing benefits of metered parking and the advantages of Duals. Ask Dual's engineers to help survey your needs. Write to Dual today.

THE DUAL PARKING METER Company

Harter Bank Building
★
CANTON 2, OHIO

Central Control of City Purchasing

By PERRY W. RODMAN
City Comptroller
Bridgeport, Conn.

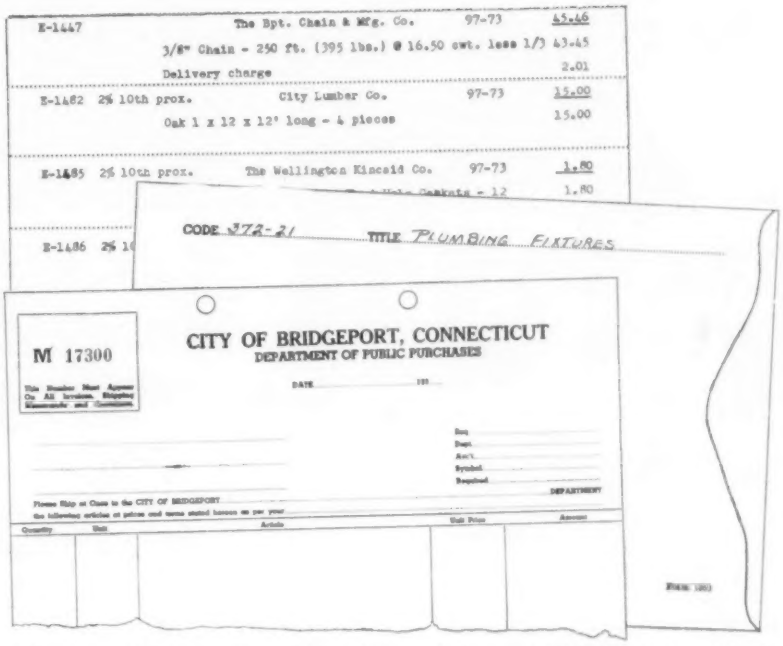
ALL PURCHASING of the city of Bridgeport is done through a central purchasing office. This office, like all other city departments, is subject to the control of the Comptroller. While a department head may have full authority as to specifications and amounts and may recommend certain items, no department does any direct purchasing.

Before a purchase can be made, a requisition for the desired items must be made by the department head and passed upon by the Comptroller. He must determine the following:

1. Has enough money been appropriated to allow the requisition to go through? This information must be readily available, particularly toward the close of the fiscal year.
2. Is the contemplated purchase warranted at this time, or at all?

Without this function—review of necessity—the Comptroller would be unable to direct the financial operations of the city. While this form of control is not explicit in the statutes under which the city of Bridgeport operates, it is so reasonable in its functioning that there is no argument against it.

Once the requisition has been passed, the Purchasing Department issues a purchase order which is sent back to the Comptroller who dictates to a dictaphone the pertinent information he needs for the records: the vendor's name and address, the account affected, the purchase order number, special terms, if any, and a description of the purchase. The stenographer types the record on perforated paper backed up with transfer carbon. This sheet goes to the transfer posting machine and a print of it is made. The perforated sheets are then torn so as to include under a vendor's name the items applying to him. These, in turn, are classified by kind under broad headings, such as electrical supplies, plumbers' and steamfitters' supplies; paints, enamels, varnishes, thinners, etc.; glass; boiler parts and repairs, building repairs. As opportunities arise, this rough filing is carried into a finer filing system. This filing system involves the use of the Cardineer file, which I have found most efficient and, instead of cards, I use an open end envelope 5 x 8 and simply put the slips of paper into it.


E-1447 The Bpt. Chain & Mfg. Co. 97-73 45.46
3/8" Chain - 250 ft. (395 lbs.) @ 16.50 cwt. less 1/3 43.45
Delivery charge 2.01
E-1482 2% 10th prox. City Lumber Co. 97-73 15.00
Oak 1 x 12 x 12' long - 4 pieces 15.00
E-1485 2% 10th prox. The Wellington Kincaid Co. 97-73 1.80
CODE 372-21 TITLE PLUMBING FIXTURES
M 17300
CITY OF BRIDGEPORT, CONNECTICUT
DEPARTMENT OF PUBLIC PURCHASES
DATE
DEPARTMENT
Quantity
Unit
Article
Unit Price
Amount

A purchase order form and a perforated sheet of slips containing data dictated by the comptroller from each purchase order. The slips for each vendor are placed in envelopes filed by commodity.

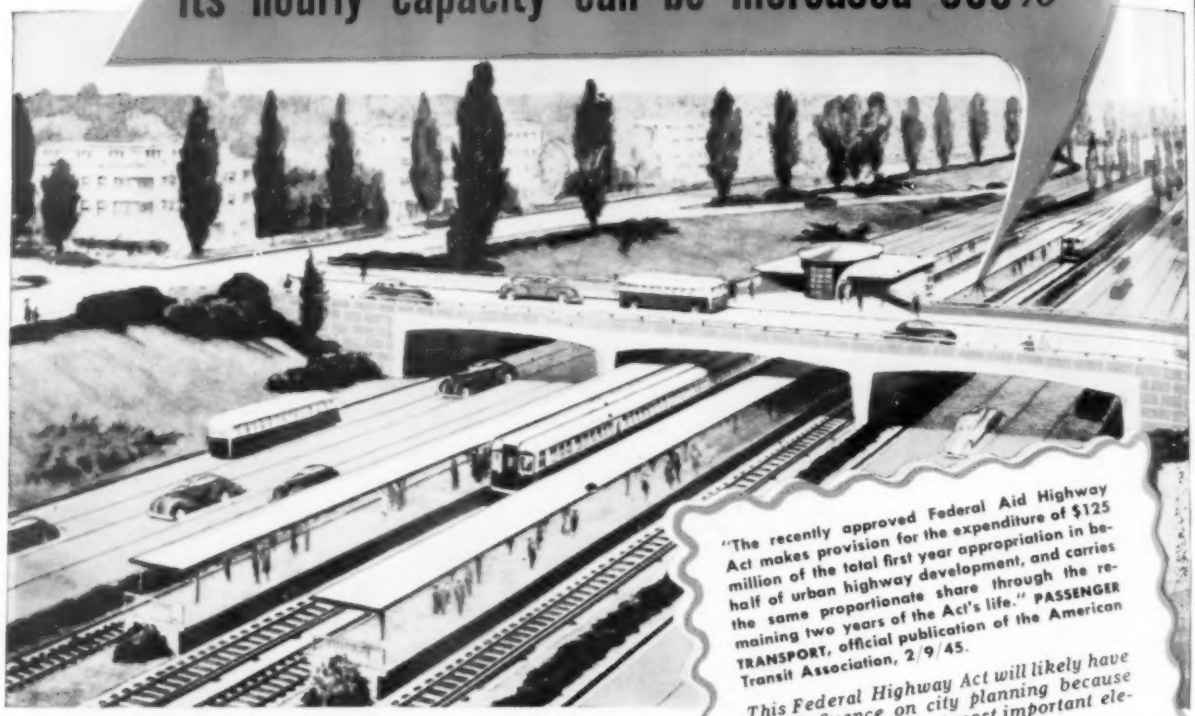
This system has given me a compact, complete analysis by kind of the many and varied purchases made by the city of Bridgeport, and the vendors who supplied them. As the file builds up, it is possible to make comparisons between vendors. These files can be thinned out at any time by pulling out the old envelopes and putting in new ones. This does away with huge bound volumes, and puts all the pertinent facts in one place, right in the hands of the executive himself, when he wants them. When a requisition comes through calling for some material, I turn to my file to see when this material was last purchased. This may lead to some questions concerning the wisdom of making the present purchase.

The filing system is especially valuable in the case of commodities that have a continuously shifting price range and where one does not want to take for granted that the same trade discount is allowed each time or that any other special requirement exists.

The bookkeeper posts to the commitment only the line which has to do with the vendor. When he has posted his commitment ledger in full for a month and then applied the liquidations, the net balance he receives on commitments from his ledger must equal the balance of commitments which is kept in the appropriation ledgers. This is an example of cross or block checking which is in effect all through the Comptroller's office.

When Bridgeport resumes its huge public works program and we find ourselves again in the contracting business, the codes which have already been worked out will be applied to these purchase records and punched cards for all construction commodities and will form the basis of our construction cost determination. That is why there is a provision for code on the envelope. We carry this out to a certain extent now, but it is not nearly as refined as it will be when we find ourselves again one of the biggest construction contractors in the state.

If you part a freeway in the middle... with a transit right-of-way... its hourly capacity can be increased 950%



"The recently approved Federal Aid Highway Act makes provision for the expenditure of $125 million of the total first year appropriation in behalf of urban highway development, and carries the same proportionate share through the remaining two years of the Act's life." PASSENGER TRANSPORT, official publication of the American Transit Association, 2/9/45.

This Federal Highway Act will likely have wide influence on city planning because it greatly affects that most important element—urban transportation.

When *your* urban highway plans are made, be sure to include provision for public transit.

At the prewar average loading of 1.75 passengers per automobile, a four-lane highway will carry 10,500 passengers per hour, maximum, in one direction.

By adding one lane for buses, you could transport 23,500 passengers per hour in one direction; a trolley-coach line would permit 28,500 passengers per hour; modern street cars, 30,500. A two-track rapid-transit line in each direction would increase the freeway's capacity by 100,000 passengers per hour, or 950 per cent.

The majority of people depend upon public vehicles, and the greatest good for the greatest number should be your main concern. Include transit right-of-ways in new urban highway systems and you will give the majority first consideration. You'll move people faster, reduce traffic congestion, increase safety—and provide the smooth circulation essential to sound community growth. *General Electric Company, Schenectady 5, New York.*

Team Up with Transit—You'll Pep Up the Lifestream of Your City!

GENERAL ELECTRIC

BUY WAR BONDS

107-127-9560

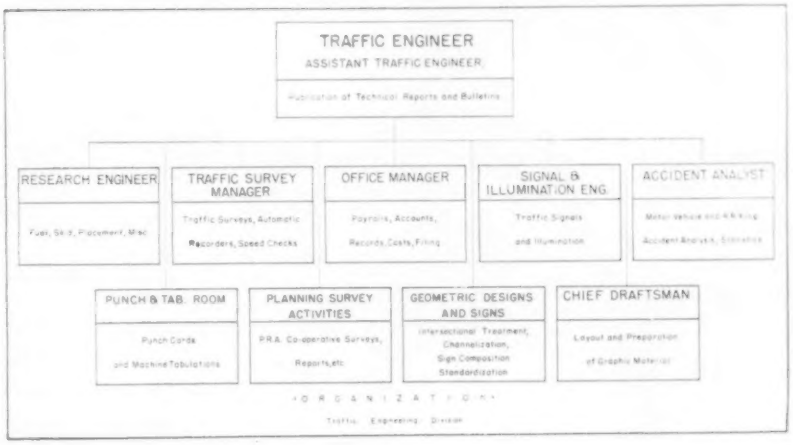
Traffic Control and Facilitation

Conducted by Traffic Control & Facilitation Committee, Institute of Traffic Engineers, 60 John St., New York

W. L. Robinson, Chairman; M. A. Beebe, J. W. Arch Bollong, Edgar Copell, F. B. Crandall, J. B. Ecker, H. G. Eckhardt, M. O. Eldridge, J. A. Head, F. W. Hurd, D. G. Manning, J. B. Moriarty, Lt. D. T. Myers, Harry Porter, Jr., William B. Powell, Martin Stark, William Van Duzer

For Efficiency in Traffic Engineering

By J. W. A. BOLLONG
Traffic Engineer
Seattle, Wash.



SELECTION of the proper place in a city government for traffic engineering and the traffic engineer depends upon local conditions. Normally the traffic engineer should be located in the bureau of public works because he is concerned with the facilitation of traffic and the prevention of accidents from a physical standpoint and many of his undertakings require construction. He should be in close contact with the departments which build and design streets and highways and he must have the full cooperation of those in charge of traffic law enforcement and traffic safety education.

The traffic engineer's duties should be clearly outlined by ordinance, of which the model ordinance prepared by the National Conference on Street and Highway Safety is a good example. The traffic engineer conducts studies of street traffic, accidents, congestion, and other conditions affecting the safe and convenient use of the street, collects facts regarding the effect and operation of traffic regulations, formulates traffic rules and regulations, and, in the case of Seattle, installs, maintains, and operates traffic markings, traffic signs, traffic signals, and traffic safety lighting. In particular his duties are:

1. To designate crosswalks, establish safety zones, and mark traffic lanes.
2. To choose locations at which no left or right turns shall be made and erect proper signs.
3. To designate, install, and maintain loading zones, passenger zones, and street car or trolley coach and bus zones; designate location of public carrier stops and stands, such as taxicab and for-hire stands.
4. To erect and maintain traffic signs in accordance with time regulations established by ordinance; erect and maintain traffic signs designating angle or parallel parking; designate locations at which parking shall be prohibited entirely and erect and maintain the proper traffic signs; erect and maintain all *Stop* signs at arterial or through streets as designated by ordinance.
5. To inspect street and highway plans for the purpose of recommending traffic facilities.
6. To erect, operate, and maintain all traffic signals or other electrically illuminated traffic signs and warnings.
7. To supervise the operation of heavy and over-width equipment as to route, time, and load.
8. To make traffic surveys.
9. To maintain accident spot maps and traffic flow maps.
10. To make recommendations to other departments regarding openings in streets which obstruct traffic flow.
11. To maintain a card file record of all signs, signals, and marking installed and maintained throughout the city. This card file should indicate the time and reason for placement of such installations.
12. To maintain traffic accident report file and make monthly and annual summaries from it according to national standards.
13. To prepare annual traffic control report showing the traffic accident conditions traffic trends, number of signs, signals and other traffic equipment in place, installed and maintained, and make plans and recommendations for future traffic safety and facility. This report is furnished to the mayor, city council, chief of police, board of public works, traffic judge, local safety council, and traffic commission (if such commission exists).

Duties and Qualifications of a Traffic Engineer

The traffic engineer should be an engineer and acquainted with engineering procedure. The duties entail knowledge of both civil and electrical enginering. He should be acquainted with construction and design methods and should be sufficiently aggressive to see that the known methods for traffic control are installed and applied. He should be able to get along with people and obtain their cooperation. He should be able to write and speak effectively, presenting the results of technical studies in lay language and for a clear understanding by public officials and others. He should have a comprehensive understanding of the traffic problem and its relation to other economic and social problems of the city. He should have administrative ability in order to inspire confidence and cooperation of various assistants and personnel within the department.

Personnel of a Traffic Engineering Division

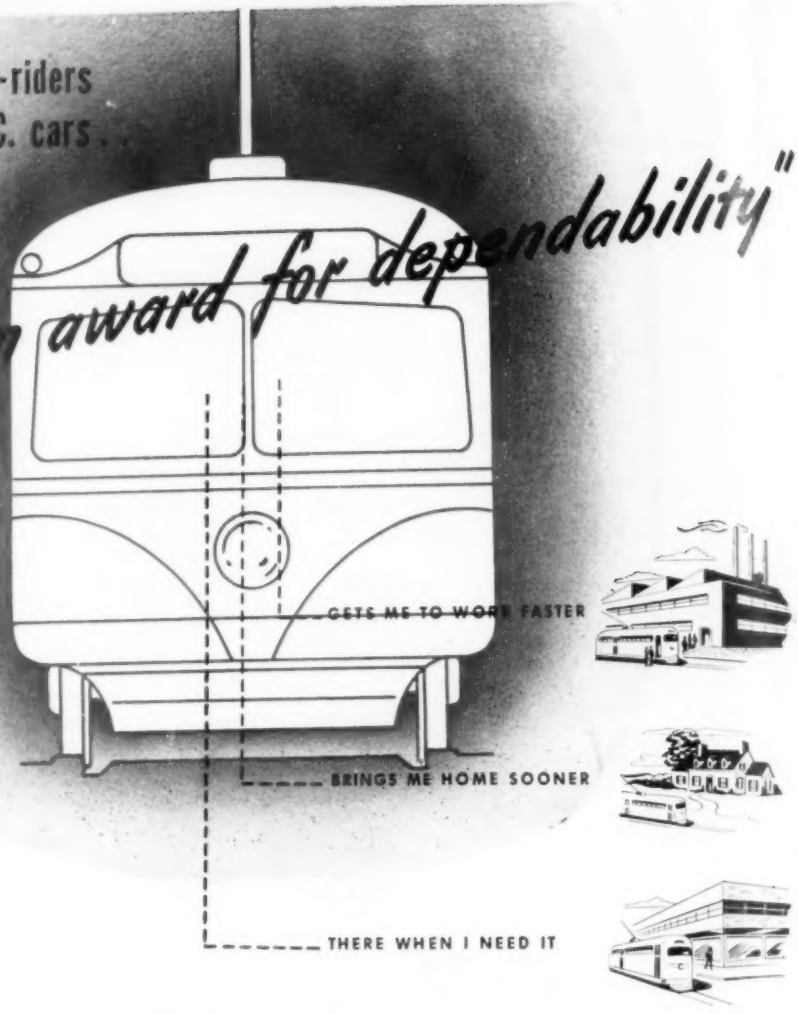
The division should have seven functional engineering divisions: survey, planning, signals, signs and markings, traffic design, street usage, and traffic investigations. There should be an engineer in charge of each of these divisions and if the city is of sufficient size, there should be an associate traffic engineer to serves as general assistant.

In order to operate efficiently, the traffic engineering division should have adequate shops and equipment for construction, installation, operation, and maintenance of the traffic equipment in and on the street. The shops should be divided into an elec-

(Continued on page 147)

Daily transit worker-riders maintain that P. C. C. cars . .

"deserve an award for dependability"



Industrial areas depend on P.C.C. cars to move more people . . . more easily . . . in less time: "As dependable as an alarm clock" . . . is the verdict of both workers and industrial management in commendation of the ideal handling of peak industrial loads by the new, modern P.C.C. cars.

They have met the requirements, under most exacting conditions, for speedy, safe, smooth and more comfortable transit service. Headways were cut, due to faster movement of present cars compared with older equipment. War worker-riders found that P.C.C. cars . . . were *there* when needed . . . brought them to work *faster* . . . back home *sooner*. This wartime experience can serve as an excellent guide to peacetime operation—to hold present riders and win new ones.

Westinghouse Electrical Equipment makes possible many of these P.C.C. car features. For full information, call your Westinghouse office or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

J-95105

THE PROPER USE OF P. C. C. CARS IN PUBLIC TRANSPORTATION CAN:

- Carry more passengers
- Speed up operating schedules
- Increase passenger revenue
- Reduce platform costs
- Reduce total power required per car mile
- Lower maintenance expense
- Handle greater peak loads easier . . . and—

dependable, safer, more comfortable Public Transportation can reduce private automobile traffic and parking problems.

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

TO SOLVE YOUR POSTWAR TRANSPORTATION PROBLEM
MOVE PEOPLE NOT VEHICLES
USE P. C. C. CARS

Serving the Transit Industry

TO MOVE MORE PEOPLE . . . MORE EASILY . . . IN LESS TIME

Spokane Needs Better Lighted Streets

WHILE the use of stop signs and traffic signals in Spokane has unquestionably prevented many serious traffic accidents, additional safeguards and measures are essential in order to prevent the increase in the number of traffic accidents and fatalities, particularly non-intersection accidents and deliberate traffic law violations. The following precautions are suggested:

1. An effective program for the reduction of pedestrian accidents.
   (a) Adequate traffic safety lighting.
   (b) Education of the driving and walking public in safety practices.
2. An effective program for education of drivers in traffic laws and the importance of compliance with all such laws.
3. Strict and impartial enforcement of traffic laws and regulations with special attention to those violations that most frequently cause traffic accidents.
4. Fair and certain punishment of all who violate the laws and traffic regulations that are designed primarily for the protection of the public.

Pedestrian Accidents

Most traffic deaths in Spokane result from pedestrian accidents. During the last ten years 134 pedestrians were killed. This is three-fifth of all the traffic deaths during that period. Nine years ago a series of studies was started in order to determine how best to attack the pedestrian problem. These studies have been continued and enlarged each year. As more and more data were assembled it became evident that there were two outstanding characteristics of fatal pedestrian accidents:

1. Most of the persons killed were past middle age.
2. Most fatal pedestrian accidents occurred after dark.

After a few more years and with more cases available for study, a still more important factor was discovered: A very large proportion of all pedestrian accidents and one-half of all the fatal pedestrian accidents took place on a comparatively small portion of the city streets.

In this city where there is half as much traffic on the streets at night as in the day time, a ten-mile stretch of five city streets, representing only one-seventieth of all the improved street mileage, accounted for one-half of all the pedestrians killed and one-third of the pedestrians injured after dark.

These facts, gathered over a period of nine years, are the key to the solution of the principal pedestrian accident problem. If we can eliminate most of the darkness hazards on these ten miles of streets, we can expect to reduce our pedestrian accidents as follows:

Injury accident, 15% reduction
Fatal accidents, 32% reduction

This would mean a saving of nine lives and thirty-eight injuries in two years. During the last nine year, forty-two lives might thus have been saved and seventy-two more or less serious personal injuries could have been prevented.

Summer Air-Conditioned Coach

An air-conditioned trolley coach which has just been put in service in Atlanta, Ga. Mechanical features have been so developed that the use of such a coach is now practical as well as comfortable.

By JOHN ANDERSON MILLER
Transportation Consultant
New York, N. Y.

AIR-CONDITIONED city transit may become a practical reality in the near future if experiments now being undertaken in Atlanta, Boston, and Pittsburgh prove successful. The first completely air-conditioned vehicle for urban transportation service is an electric trolley coach recently completed at the Worcester, Mass., plant of the Pullman-Standard Car Manufacturing Company. It has just been placed in service at Atlanta by the Georgia Power Company. At virtually the same time new type street cars are starting operation in Boston and Pittsburgh.

With the growing use of air-conditioning in railroad cars and inter-city buses, the desirability of air-conditioning city transportation vehicles has been widely recognized. Up to the present, however, technical difficulties have prevented the adoption of the idea.

Chief among these difficulties has been the weight of the equipment required. A transit vehicle in city service is standing still with its doors open for nearly half of the time on each trip. This results in a large interchange of inside, conditioned air and outside, non-conditioned air. For that reason, the supply of conditioned air in city service must be approximately twice as great as is required for a vehicle in intercity service that stops infrequently. This condition calls for larger and heavier refrigerating equipment to provide pre-cooled air. It also requires greater power to operate the equipment—a serious problem in the case of the motor bus.

To meet the demand for summer comfort in city transportation vehicles, the Transit Research Corporation, which specializes in street car design, has developed a system of blowing into the car extremely large quantities of ordinary outside air. This method of comfort-conditioning is known as evaporation cooling because its effect is produced through the evaporation of moisture from the bodies of the passengers. Equipment on the first experimental cars is designed to provide a total of 12,000 cubic feet of air per minute or about 200 cubic feet per minute per passenger. That is about ten times as much as would be necessary for ordinary ventilation, and four times as much as would be required if the air were pre-cooled.

In contrast to the evaporation cooling system developed by Transit Research Corporation, a pre-cooled air system developed by Carrier Corporation is used on the Atlanta trolley coach. Though weighing only 1,500 pounds, it has cooling and dehumidifying capacity of 2,200 cubic feet per minute, or approximately that on the latest type of railroad cars. Air distribution is through ducts along both sides of the coach at the ceiling.

Selecting

THE CORRECT PARKING METER

Parking meters are exposed. Rain, snow, sleet and vandals all take cracks at parking meters.

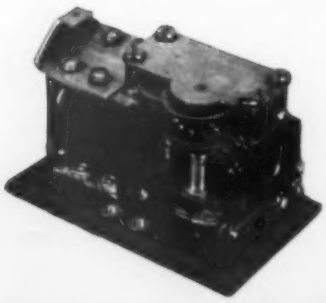
Mark-Time engineers set out to perfect a parking meter that could take all four with a smile.

The New Mark-Time Perfection Parking Meter is so simple that people will say, "Why didn't somebody think of it before?" . . . so rugged they will say, "This is what we have been looking for." . . . so foolproof they will say, "This is it!!!"

The New Mark-Time Perfection Parking Meter that has everything!!!

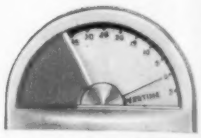
PROOF . . .

For one of the most outstanding records in war production, the Mark-Time plant has been awarded the Army-Navy "E" for manufacture of precision products some of which are shown below:

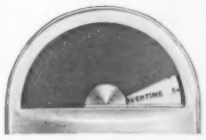


A GLANCE TELLS THE WHOLE STORY

LEGAL



TIME PARTLY EXPIRED



OVERTIME

VIOLATION

Large, all-red violation signal can be seen by the patrolman 10 to 50 times as far as the ordinary pointer signal.

A GLANCE TELLS THE WHOLE STORY.

SALES TERRITORIES NOW OPEN

A golden sales opportunity for salesmen and distributors is opened by this new Perfection model. Our proposition is most attractive for immediate business. Write now for full details.

M. H. RHODES, Inc., *Manufacturers, Hartford 6, Conn.*

VIOLATION WHEN ALL RED
MARK-TIME
MARK-TIME
REG. U.S. PAT. OFF.
Perfection
THE PARKING METER THAT HAS EVERYTHING

the FASTEST METHOD of loading snow!

Look at that Snow Stream! That's trouble coming off your street. Snogo picks it up and puts it into the truck—a load full every 10 to 20 seconds—the fastest method of loading snow known!

The powerful force of the Snogo delivery not only loads the truck but packs it tight with a far greater load per truck than could possibly be obtained by hand.

Snogo moves with the traffic on the right side of the street. Trucks move in the same direction. There is no turning to lose, no extra congestion, nothing to delay loading.

Snogo sets the snow away! Behind it is a record of reduced handling costs—in some cases as much as $2,500.00 a day over hand shoveling. It means a quick speed-up of every facility after every snow-fall with the minimum of cost and trouble.

Bring your city in line with modern practices. There is a Snogo for every budget—you can afford it and your citizens deserve it. Ask about Snogo.

KLAUER MANUFACTURING CO.
DUBUQUE, IOWA

Power for the operation of a mechanical refrigeration system does not present the problem with a trolley coach that it might with a motor bus, because an ample supply of electrical energy is always available from the overhead wires. Similarly the weight added by the installation of the extra equipment is relatively unimportant because the electric motors of the trolley coach have plenty of capacity to maintain high speed operation under all conditions.

The Atlanta experiment is expected to provide valuable data on installation, operation, and maintenance costs of air-conditioning equipment in city service. Public reaction to the innovation will be watched with keen interest by the entire transit industry. Since the trolley coach is the most popular and rapidly expanding form of city transportation, the success of the experiment may have a wide effect.

Program for Improved Transit and Parking

DEFICIENCIES in urban transportation must be corrected if the value of our cities as business, residential, and cultural centers is to be preserved, the Transportation Committee of the Chamber of Commerce of the United States finds.

Needs are set out for all types of urban transportation — automobiles, street cars, buses, trolley coaches, and trucks, as well as parking for cars and loading arrangements for trucks.

The recommendations, tentatively agreed upon after extensive canvass of opinion on the main questions involved are:

1. Urban planning should make provision for all needed forms of passenger and freight transportation according to foreseeable demands in each community.

2. A basic requisite of the transportation plan is a street system of adequate capacity to handle the local traffic of the community as well as that to or from exterior points including arterial highways, and providing free access to central business districts and bypass routes around them.

3. The system of arterial highways should provide for public transit as well as individual vehicles, with necessary special facilities and proper coordination to reduce to a minimum the interference of each type of transportation with the others.

4. In large cities where excessive congestion exists, subways within central districts for street cars, or in extreme cases for rapid transit trains, should be considered as a means of enlarging the general transportation capacity.

5. To permit major streets and highways to function efficiently, public authorities should regulate or prohibit curb parking to the degree necessary to prevent undue interference with moving passenger and freight traffic and with essential curb loading and unloading of passenger and freight vehicles.

6. Public authorities should encourage the provision of private off-street parking facilities for hire on a stable basis, without the threat of unfair competition from free or below-cost facilities provided at public expense.

7. Parking regulations should recognize that practically every building, including residences, requires frequent or occasional service by trucks, and should make such service feasible.

8. Where the volume of commercial vehicle loading and unloading justifies, off-street facilities should be required for new buildings. This requirement should apply to existing commercial buildings where economically feasible; otherwise, curb loading zones should be established for the exclusive use of commercial vehicles during reasonable pick-up and delivery hours.

9. Notwithstanding all measures which can be provided at reasonable cost, the traffic and transportation problems in many urban centers will remain difficult, and every effort should be made to facilitate and encourage the use of transit service in the public interest.

10. Taxicabs, in communities where there is extensive demand for their service should be regulated as common carriers and reasonably restricted as to number; they should be encouraged to establish fixed stands and to limit cruising; proof of financial responsibility should be required of their owners and charges should be determined by the taximeter.

11. Efficient public passenger transportation can best be attained through private operation under proper regulation, centralized as to each metropolitan area in a single body with jurisdiction over all types of carriers and with increased emphasis on improved facilities and service.

12. The use of staggered work hours to spread transit and street traffic peaks should be encouraged after the war as a continuing contribution to efficiency and relief of congestion; further experimentation should be made with limited stops, turn-backs, express service and other methods of expediting transit operations; unwarranted extensions and other unprofitable services affecting the financial stability of the transit carriers should be discouraged.

Small Town Problem— Large Airports

WHAT DOES a small town do with a million dollar airport? This problem, which is now confronting Conroe, Texas, fifty miles north of Houston, is one which will recur frequently when the armed forces retire from airports built by the Civil Aeronautics Administration during the war, and which now revert to the community which originally provided the land.

After being informed by the Navy that the airport would soon be turned over to Montgomery County, of which Conroe is the county seat, the County Court appropriated $25,000 for maintenance of the airport. The land had originally cost the county $75,000. "Owning a million dollar field that cost only $75,000," says the *Conroe Courier*, "places the county $925,000 ahead when the physical value of the plant is considered. But," it adds, "there isn't business enough in sight to justify spending 75 cents for maintenance."

Just how Conroe will solve this dilemma should be interesting to scores of other communities.

Efficient Traffic Engineering

(Continued from page 143)

trical division, stock room, sign painting division, and sign storage division.

A construction foreman should be in charge of these shops. Under the foreman should be the following crews: electrical construction and maintenance crew, traffic signal operation crew, traffic sign crew, traffic line marking crew, traffic sign shop crew, parking meter shop and channelization.

GOOD STREET LIGHTING...

The Sign of a Good Place to Live

In small communities ⬅

When war ends you'll want adequate street lighting to make your town as attractive by night as by day, to aid local merchants, and to add to the security of your citizens.

In large cities ➡

After victory you'll want adequate street lighting to cut night traffic accidents, save lives, reduce crime, and attract new business and industry.

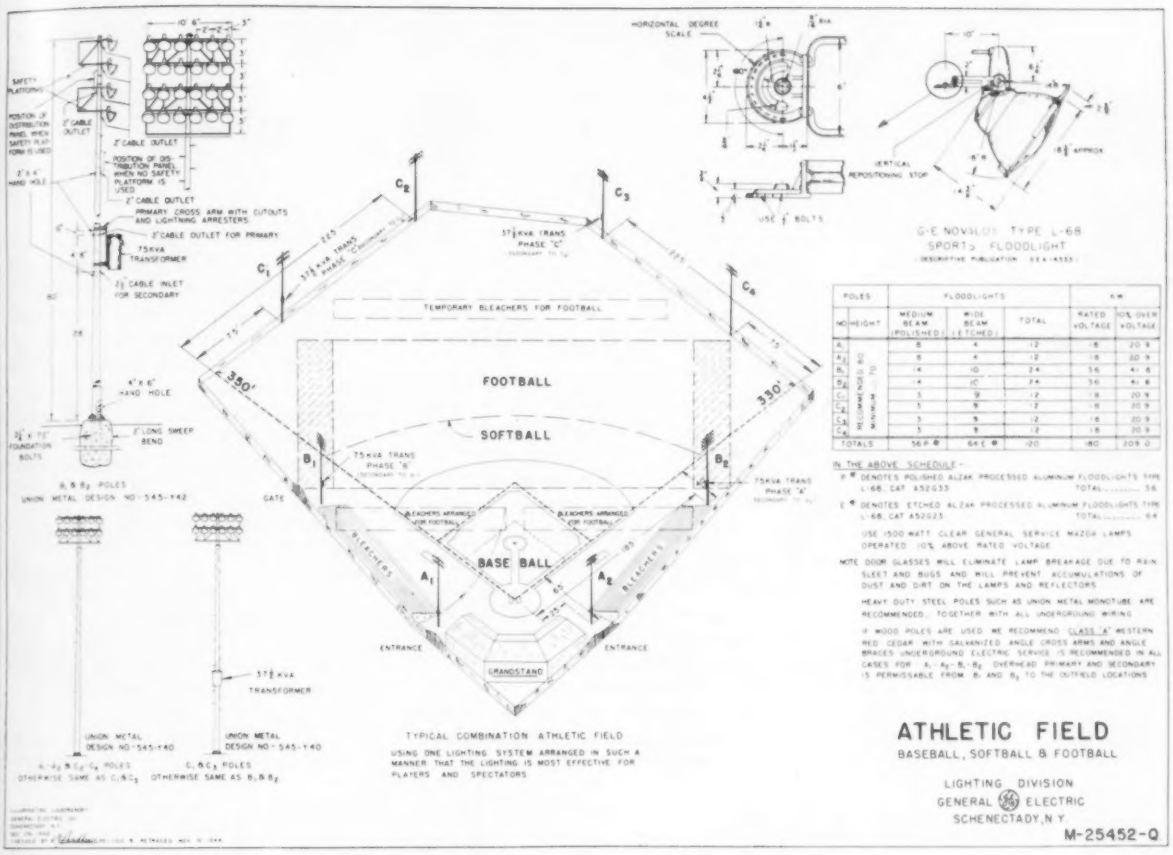
To enjoy all of these benefits of adequate street lighting—and more, insist on Union Metal *tapered steel* street lighting standards. Economical to install and maintain, tall, attractive, and long-lasting, Union Metal standards have been designed by street lighting specialists to give you maximum lighting efficiency at low cost—no matter what your requirements. For complete information on types and styles to fit your budget, consult your electric utility company, or write The Union Metal Mfg. Co., Canton 5, Ohio.

UNION METAL TAPERED STEEL STANDARDS

...The Sign of Good Street Lighting

UNION METAL

Largest Producers of Street Lighting Standards



Floodlighting for use on sports fields, arranged so that equipment can be used for variety of sports without rearrangement.

First Step to Night-Time Community Sports

By R. J. SWACKHAMER
Lighting Division
General Electric Company
Schenectady, N. Y.

A NUMBER of cities are planning community sports projects. One city, already successful with nine lighted playgrounds, plans six more for the near future. Another will light thirty grounds. Several communities have completed designs for recreation fields as memorials to their boys of World War II.

Multi-sports fields such as the one shown here are growing more and more popular as centers of community activity, and this one is pictured for your consideration. In addition to providing playing facilities for baseball, basketball, and soft ball, they can be used for band concerts, graduation exercises, Community Chest drives, and rallies. They are the first step in a community sports project.

The field shown is designed primarily for baseball, but is so arranged that football and softball can be played without rearrangement of the lighting equipment. Only eight steel poles, 70 to 80 feet high, are required. Twelve to twenty-four 1,500-watt sports floodlights, depending on their location, are used on each pole.

When baseball is played, all the floodlights are turned on. For football, either all or six locations (B1, B2, C1, C2, C3, and C4) are used. The movable bleachers can be rearranged for football and softball. Temporary seating facilities can be added in the outfield if required.

The system uses 180 kw of lighting load at rated voltage, or 209.0 kw at ten percent over-voltage. Over-voltage operation is determined by the number of hours a year the floodlights are in use. If used less than 200 hours, they should be operated at ten percent over rated voltage. When the field is used from 200 to 500 hours, five percent over-voltage is advocated. If the system is in use more than 500 hours a year, rated voltage operation is normally employed.

Permanence, quality, and neat appearance are just as important in this type of project as they are in any other public endeavor. For this reason, steel poles with safety platforms, underground wiring, and modern enclosed sports lights equipped with Alzak* finished aluminum reflectors

"Modern Street Lighting was Invented for Big City Folks"

DON'T YOU BELIEVE IT!

THE street lighting available to you today *at low cost* was developed to serve the people no matter where they live . . . in cross-road villages, in small residential towns or in large cities.

Skilled illuminating engineers, with the sole purpose of serving the human need, have developed street lighting to the point where no community, large or small, can afford to be without its many advantages.

Take its *safety factor,* for example. Adequate modern street lighting reduces all night traffic accidents 65% . . . cuts fatalities to ⅓ normal or *below.* And, even if your town is one of those places where a motorist has to hunt for someone to hit after dark . . . the installation of adequate street lighting would more than pay for its small cost—even if it saved only *one life* over a period of years.

But that isn't all! As in big cities, adequate street lighting gives the people of small communities a greater sense of security. It lights up their public buildings and principal stores, making them as attractive after dark as during the day. It makes residential sections safer and more pleasant. And, finally, it gives to any town the appearance of "being alive" that no other civic improvement can match.

If you haven't already made plans to give your town adequate street lighting —contact your electric utility company today. Ask for details on improved equipment . . . new street lighting methods. Find out what improvements should be made first . . . how much their initial cost will be . . . how much you can save in money, lives and economic loss. Or write The Street and Traffic Safety Lighting Bureau, 155 E. 44th St., New York 17, New York.

GOOD STREET LIGHTING . . . THE SIGN OF A GOOD PLACE TO *LIVE!*

Steel poles and underground wiring for floodlight illumination enhance the appearance of Mohawk Mills Park, a combination sports field, located at Amsterdam, N. Y.

should be furnished. They will provide greater enjoyment, more comfort, and more lasting service than wood poles, overhead wiring, and open-type floodlights, which are usually a greater expense in the long run.

* Aluminum Company of America trade name.

How Much New Street Lighting?

THE best post-war planning for new street lighting is probably that done by the principle manufacturers of street lighting equipment. They plan to urge modern street lighting in terms of a practical program. Not only are people and cities fed up with inadequate facilities of many kinds, but also the dim-outs, black-outs, and brown-outs have been trying and have, moreover, emphasized how accidents increase when street lighting is inadequate.

This demonstration of the lethal results of curtailment of street lighting will be remembered. There was no such experience with dimmed lighting during World War I. As a consequence, after the war street lighting was curtailed in many cities for reasons of economy. A notable instance was Detroit where, as in the other curtailment areas, accidents increased disastrously. The result in Detroit was that Louis J. Schrenk, head of the Public Lighting Commission, devised a new type of luminaire and offered to buy it in sufficient quantity to make it necessary for manufacturers to produce it. According to the late L. A. S. Wood, this was the beginning of traffic safety lighting.

In the five to eight years before World War II the promotion of street lighting had been based upon the value of lighting in making the streets safer at night. A great deal was being accomplished. City officials were beginning to take for granted that automobile drivers on city streets at night needed to be able to see each other and to see and be seen by pedestrians. What will be the results of this awareness when motor vehicles start rolling off assembly lines again in increasing numbers and with increased capacity for speed?

Automobiles will use practically all of the 3,215,000 miles of streets and highways in the United States. Truck traffic and buses will be on 1,572,000 miles of surfaced roads and streets.

In 1935 there were 2,500,000 street lamps along 153,000 miles of streets. The average spacing was 327 feet. The average light output was 2,300 lumens. Each of these lights was protecting an average of 20 persons and serving 18,000 square yards of street area. The average intensity was estimated at 0.04 footcandle compared with 10,000 footcandles on a pleasant summer day.

What Will Happen After 1945?

The March 1945 issue of THE AMERICAN CITY presented a staff survey of post-war plans covering 94 cities in the Great Lakes states of Michigan, Wisconsin, Illinois, Indiana, and Ohio. Officials of these cities gave the following reports: 11 expected to install complete new systems; 15 to modernize on traffic and business streets; 26 to re-light traffic streets; 23 to re-light business districts. A recent inquiry addressed to all these cities asking how far plans had progressed and whether they could be summarized and published in THE AMERICAN CITY brought negligible response. It may be, therefore, that instead of formal plans made by the cities, the plans to a degree will be made for many of these cities by the local utilities and the equipment manufacturers cooperating.

There seems to be enough desire for new street lighting right now to assure activity in this field for several years now that the war is over. One of these midwestern cities, Dayton, wrote on July 10, 1945: "Dayton is an industrial city and we have had quite an influx of people and have felt the results of the crowded conditions in inadequate street lighting of our residential section. We are receiving numerous requests for new lights each week. As we can install only very few at present, all requests are kept on file for future action."

The job to be done is a considerable one. Let us consider the total street mileage as a yardstick. There are 95,000 miles of high- and medium-type streets, 110,000 miles of low type, 45,000 miles of graded and drained streets; a total of 250,000 miles. As we have said, 130,000 miles of these have lights.

At an average of 30 lamps per mile along the 95,000 miles of high- and medium-type streets, there would be 2,850,000 street lamps, or 350,000 more than the survey found in 1934. With the average spacing of 327 feet found in 1934, the 110,000 miles of low-type streets need 1,600,000 street lamps. To light the better classes of streets about as well as the average street was lighted in 1934 would therefore require 4,450,000 street lamps. This does not say how many will be installed in one year or in five years, but it does perhaps give some indication of the number needed to do a lighting job on these streets.

Utah's Pleasant Grove Delighted

New street lights and other improvements take care of a 58 percent population increase in five years

By HAROLD H. BULLOCH
City Recorder

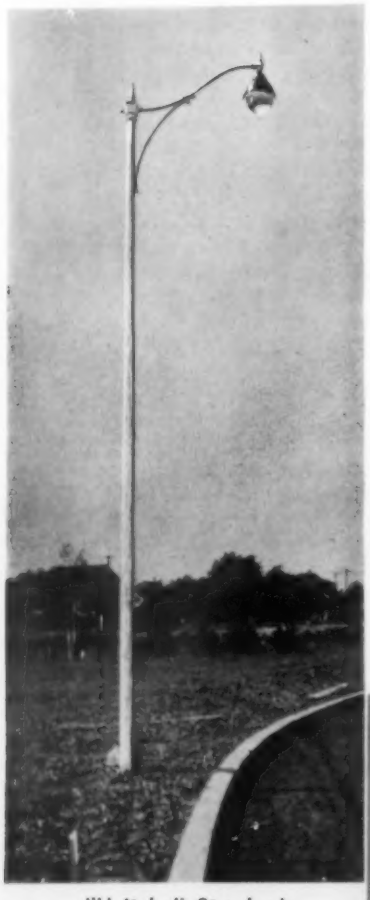
A VENTURE into community improvements is complete in Pleasant Grove, Utah, with the finishing of a project providing new lighting and a wider street for the business district.

Begun in September 1944, the new system covers three blocks of Main Street comprising business buildings, the city park, and some residences. Used in the project were twenty-three 6,000-lumen lamps, spaced alternately

Daunt Standards for Modern Street Lighting

"Davit" Standard installed at Ocean Beach, New London, Conn.

Tapered pressed steel design of various shapes . . . In sizes to provide Mounting heights to 35'0"



"Unitube" Standard Installed at Ocean Beach, New London, Conn.

THE DAUNT CORPORATION

ESTABLISHED 1931

120 to 126 SUTTON ST., BROOKLYN 22, N. Y.

Pleasant Grove Chamber of Commerce compliments the city on street lighting changes shown here.

on both sides of the street on 58-foot centers through the business district and 85-foot centers through the area past the city park and residences. Five sodium vapor lamps at the southern approach to Main Street have lessened a great traffic hazard from this junction of the city road with US highway 91. At the north end of the street three 6,000-lumen mazda lamp units have been installed at another danger point for motorists.

The new system was installed during April 1945 by the Utah Power and Light Company. Union Metal upsweep brackets equipped with General Electric luminaires with spun-on globe holders were used. Wood poles were used because steel ones are not available.

The total light output of the new system, not including the existing sodium-vapor lamps, was 238,000 lumens. Under the old plan, three 6,000 lumen and two 1,000 lumen bare lamps on right-angle-bend brackets, all on the east side of the street, furnished the light shown in the first photograph. Due to the increased efficiency of the new luminaires, the usable lumens on the road surface were increased 118,000 lumens or approximately 2,300 percent.

In connection with the lighting project, Mayor S. Duane Harper and the City Council decided to widen the streets involved. Formerly parking areas and light poles extended out, making the street through the business district narrow and dangerous. As business activity and traffic increased, the need for a wider street became urgent. Nine feet of paving were added on each side of the street for three blocks, and new gutters and curbs constructed. Contractors for the project were Young and Smith and total cost for widening was $20,000. The street was ready for use July 1, 1945.

The feeling the community has toward the completed improvement was expressed in a letter to the Mayor and Council from Harvey Smith, Chamber of Commerce President: "We think the lighting system recently installed in our city is one of the finest improvements made in recent years . . . the Pleasant Grove Chamber of Commerce wishes to take this opportunity of expressing to you our wholehearted appreciation for your foresight, effort, and accomplishment."

Among the officials who were responsible for the project were Mayor Harper, Councilmen Joseph A. Dickerson, Leo P. Harvey, Earl A. Beck, Neils Fugal, and Clarence O. Newman. Olin H. Ririe, Division Manager of the Utah Power & Light Company, was in charge of the improvement for the power company, and E. T. Hall, Light Sales Engineer, designed the system.

Pleasant Grove, known throughout the Intermountain West as the "Strawberry City," has grown in population during the past five years from 1,900 to 3,000. To take care of the increase in activity, various improvements, in addition to the road widening and lighting, have been made. Newest of these is the construction of a 340,000-gallon water storage tank. With the old tanks still in use, the total water available is now 615,000 gallons. In addition to being sufficient for a 25 percent increase in population, the new tank is also valuable for fire protection. The modern, completely enclosed, water system serves the community with pure, fresh water second to none.

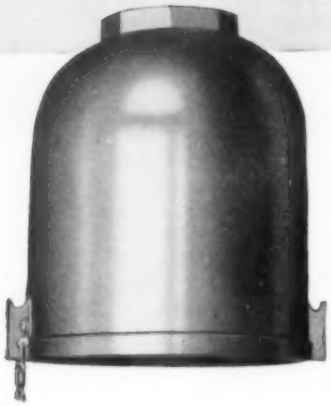
The city also has five miles of paved streets, two miles of which are being given sealing coats this year. It has more than twelve miles of cement sidewalks.

Another recent improvement is the civic building which houses the public library, city offices, and a modern fire department.

Floodlighting the Statue of Liberty

The Statue of Liberty is now robed in light equivalent to 2,500 times full moonlight. Samuel G. Hibben, director of applied lighting for the Westinghouse Lamp Division, Bloomfield, N. J., is shown with a battery of the 96 new 1,000-watt incandescent lamps from the reconditioned floodlights in the statue's base. Modern mercury vapor lamps have been added to the floodlighting system as a part of a lighting modernization program guided by Westinghouse Electric Corporation.

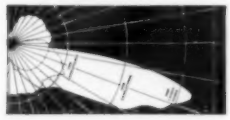
The way it's designed makes L-M Spherolite EASY to service



It's so easy to service L-M Spherolites that you almost wish they needed servicing more often. But the V-Band holder keeps the glassware snugly close to the reflector, and the toggle latches keep the reflector tight to the accurate seat in the hood. Even gaskets aren't necessary. Moisture, dirt, and bugs stay out. But where servicing *is* necessary, it's easy to do, at either of two points.

How Spherolite AIMS the Light

The chart compares the distribution of light by a bare lamp, a radial bowl, and the L-M Spherolite with Holophane refractor. Light is aimed in the desired direction by the scientifically designed Alzak aluminum reflector and the Holophane one-piece glass refractor.



Service Here . . . with Toggle Latch

For replacing a burned-out lamp, simply release the coil spring toggle latches, lift them off the hood, and allow reflector to hang by chain. Weatherproof joint with accurately machined reflector seat, requires no gasket.

Service Here . . . with V-Band Holder

To replace glassware, simply loosen the two take-up screws of the V-Band. Slip out the old glassware and slip in the new; no need to replace complete reflector-glassware assembly. V-Band provides a positive weather-proof seal between reflector and glassware; no gasket required. Latch type holders are also available.

Get this Bulletin 4432

Helpful information on street lighting; details on Spherolite; description of L-M Illuminating Engineering Service. Ask the L-M Engineer for a copy or write *Line Material Co., Milwaukee 1, Wisconsin.*

LINE MATERIAL
STREET LIGHTING EQUIPMENT

L-M DISTRIBUTION EQUIPMENT INCLUDES: Distribution Transformers • Fuse Cutouts and Fuse Links • Lightning Arresters • Oil Switches • Pole Line Hardware • Line Construction Specialties • Underground Equipment • Fibre Conduit • Street Lighting Equipment

Stable Prosperity Is a Community Problem

Federal, State, and Municipal Endeavors Must Supplement Private Enterprise

By J. N. BAUMAN
Vice-President in Charge of Sales
The White Motor Company
Cleveland, Ohio

ALL BUSINESS, large and small, is more conscious than ever before of the need for an adequate level of employment at satisfactory wages.

The authorities who have spent a great deal of time on the statistical side of this picture tell us that 56 million jobs must be provided to produce the desired result. This is ten million more than were provided in 1940. And this comparison with 1940 alone indicates the seriousness of the task ahead and that a tremendously thorough job of planning must be done to bring about a satisfactory condition now that the war is no longer the controlling factor in production and income.

The question that every business and industry—taking in every element of private enterprise—must be concerned about is not, simply, its own individual ability to "keep its head above water" in the competitive stream. It must be consciously concerned with its share of the social responsibility that all industry must accept, namely, to provide jobs and a range of employment that will satisfy public opinion in this country as to the ability of private enterprise to make available a condition that is satisfactory.

We need not be too concerned about the ability of business and industry to provide 56 million jobs rather quickly.

We can be sure that every type of product will be in great demand, to satisfy desires that have been denied for so many years. But no matter how great is the total of this pent-up demand—or how it is spent—it is an artificial stimulant and temporary, in the sense that our tremendous productive capacity can wipe it out in a few months or years, at most, and then we are back on the basis of wear-out and replacement with a crisis facing our productive facilities built up to meet abnormal markets.

Governmental Aids Necessary

With a balance of production and consumption furnishing steady work over a period of many years, it is obvious that private enterprise cannot furnish all of the 56 million jobs. Federal, state, and municipal endeavors must supplement private enterprise in seeing that everyone who wants to work and will work can obtain a job. This is not going to be easy to coordinate, but it must be done.

There are two possible methods—one is for industry and business to take leadership as represented by private enterprise, and the other is to let government take that leadership and with it a constantly increasing trend for government ownership. We believe that private enterprise now has the opportunity to take hold of this program and by organizing and planning to show and determine through every community the jobs that private enterprise can make available on a basis that will furnish steady employment for them; coordinate with municipal, state, and federal activities to provide whatever additional volume of jobs is necessary in every community to bring about a satisfactory amount of employment. This could very well call for a civic committee similar to the committees we have had during the war to take on the responsibility of planning the balance between jobs of private enterprise and those furnished by municipal, state, and federal governments.

Community Problems Differ

After all, this vital business of providing satisfactory employment must start with satisfactory employment in every community. It cannot be done nationally. Each community has its own problems and they can best be worked out at that point. A committee that combines public, government, labor, and industry could coordinate this sort of planning to bring about the goal that must be achieved by some means or other of providing steady employment in sufficient quantity.

In-City Air Terminal for St. Louis

(*Continued from page* 111)

field with airmail, and the round trip averages fairly close to two hours in actual traveling time. With this new arrangement, only 20 minutes should be required for the round trip.

The originator of the name "Airparks," Parks has consistently worked toward the development of this type of air terminus within the heart of the city, and he feels that through this particular effort, St. Louis will make a forward step that may well be followed by the 37 other cities in the United States of over 250,000 population. Said he, "If we are to have a local or feeder airline service that is going to function and be a real utility and able to compete successfully with surface forms of transportation, then it is necessary for us to have elevated landing terminals adjacent to the principal postoffices in all of our large cities. These facilities must be able to take care of landings and take-offs under all weather conditions, at thirty-second intervals and with equipment of about the size of the present DC-3 but much lighter in weight and undoubtedly four-engine. In other words, these will be local airliners that will carry the equivalent of twenty passengers and their baggage and a reasonable load of mail. There isn't much question that, if we set up such a service, all first class mail will be carried by air without a surcharge.

"We have estimated that, on an average, these terminals would cost, for the structure itself without the land, approximately $10,000,000 each, or a total of $370,000,000. In addition, our surveys have indicated that 290,000 private individual-type hangars should be required in 1950."

Two Hundred Ready-Made Airports Are Available to Cities

MORE THAN 200 airports in 41 states, now leased by the Civil Aeronautics Administration as intermediate fields, are available to communities for use as municipal airports.

Any state, county, or municipal government can take over any one of these fields which is conveniently located and useful to them, if they agree to keep the field available for emergency landings along the airways. Originally established as emergency fields by the CAA, these sites are essential airway facilities. The CAA has no objection if the city or town contracts with a commercial operator to run the fields.

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FLINK MODEL WD31 SPREADER with new safety protective housing over spreader blades and chain.

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- Reduces number trucks required
- Positive uniform spread
- Fits any dump truck
- Thousands in use

USE FEWER MEN—TRUCKS—TIME

New simplified construction, installation and maintenance, new ease of operation . . . but basically the same practical, economical, efficient Flink spreader that has proved itself in a thousand tough road construction and maintenance jobs . . . in ice control and dust control all over America. Write for complete information.

THE FLINK COMPANY

DEPT. 1 **STREATOR, ILLINOIS**

Water Pressure Upped at Lockport, Ill.

By CHARLES F. ENZ
Superintendent of Water Works and Sewerage
Lockport, Ill.

Lockport's new pump house

RECENTLY we have improved our water supply system by the addition of a new well and a pump house, the construction of a 200,000-gallon elevated water storage tank, and extensions of our distribution system.

Lockport is on the Des Plaines river and on the Chicago Sanitary and Ship Canal five miles north of Joliet, Ill. It covers an area of one square mile and has a population of about 3,800.

New Well Dug

In 1940 our water supply was furnished by one deep well and it was then apparent that with only one source of supply and an increasing demand it would be necessary to make some improvements in our distribution system to supply our growing needs and avoid the hazard of a breakdown. Therefore, a new well was drilled, a new pumping station erected, chlorinators installed, and several other changes made in the distribution system. The new pumping station, housing the No. 2 well, was equipped with one electrically driven Peerless Turbine pump which delivers 475 gpm. This new well and pump house supplement the other well and pump house, and together their capacity is 1,000,000 gpd. Our average consumption is 400,000 gpd.

The new elevated steel tank

Our next improvement was to replace the 31-year-old, rapidly deteriorating water storage tank. This 100,000-gallon structure was of insufficient capacity and—being located in a low area—provided only 13 to 18 pounds pressure for the hill areas. In addition, it contained a heavy deposit of silt and no practical means of cleaning it out was found. In view of these facts, reconditioning would have been costly and inadvisable. Replacement was therefore necessary. Accordingly, a new welded steel tank of 200,000-gallon capacity was constructed by the Chicago Bridge and Iron Co. It is an ellipsoidal structure, supported on six cylindrical columns 30 inches in diameter and one central riser which is 48 inches in diameter. The tank is equipped with anti-rust cathodic protection and a sediment drain by which deposits may be removed.

When placed in service November 18, 1944, pressures were increased from 18 to 31 pounds in the highlands and from 62 to 75 pounds in the lowlands.

The distribution system operates as one complete unit. Both wells are automatically controlled by leased telephone wires from the main pumping station. Pumping is regulated so that the drawdown of the tank is only six feet before pumping is resumed.

These new additions are not only useful in providing us with adequate water pressures but, because they are beautifully landscaped, also add much to the scenic beauty of the town.

Replanning a Central Business Area

(Continued from page 125)

sible for the city and private interests to take part in one coordinated program.

"As a result of preliminary study, it appears evident that through the redesign and rebuilding of properties and the redistribution of space, sufficient value will be added to property income to pay off the cost of improvement within a reasonable period and to place existing investors in the properties and those who furnish new capital in a position to receive increased income. . . .

"It is of paramount importance in a proposal for redevelopment to recognize the need for accommodating both tenants and owner occupants during the transitional period of reconstruction. Where the management of all properties is unified, losses can be greatly reduced by carefully arranging in advance to accommodate as many occupants as possible during the transitional period. Property assembly will also be greatly facilitated by the preparation of a 'decanting' program, as well as a program of temporary occupancies for the transitional period that will cause as little hardship as possible to both residential and business occupancies."

* In Appendix B of the report a summary is given of recent legislation.

Call a Halt to HOME FRONT CASUALTIES

Plan TRAFFIC SAFETY LIGHTING *Now*

The "shooting wars" in Europe and Asia are over—but there is still another victory to be won—the reduction of traffic casualties across the nation . . . Wartime records indicate that more American deaths have been caused by automobile accidents than by bullets at the fronts. And with gas rationing lifted, these fatalities are bound to increase unless immediate and resultful measures are taken.

To combat traffic accidents many communities are now installing *improved* Traffic Safety Lighting . . . In any new plan of street illumination specify HOLOPHANE REFRACTORS to be sure of effective, enduring and economical performance. Made of strong pressed glass (no permanent depreciation), these Refractors *SHAPE the LIGHT to the Street*, concentrate MORE Light at the vital areas . . . Leading civic authorities everywhere will tell you they give

BETTER ILLUMINATION AT LOWER COST

Write your manufacturer of street lighting equipment or Holophane Street Lighting Department, Newark, Ohio, for your copy of the new Holophane Book "Planned Lighting for Safe Streets". Just off press, available without charge.

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Zoning and Planning Notes

Edited by FRANK B. WILLIAMS
Author of *The Law of City Planning and Zoning*

Streets and Highways

Bridge Approach

CONNECTICUT.—*City of Bridgeport* v. *United Illuminating Co.*, Supreme Court, December 18, 1944, reported in 40 Atl. 2d, page 272.

The city of Bridgeport laid an assessment on property of the defendant corporation for repairs made by the city on a contiguous public sidewalk, filed a lien and brought this action to foreclose it. The trial court decided that the walk was an approach to a bridge constructed and maintained by the city, and that it was the duty of the city and not of this defendant to keep the walk in repair.

This court reverses the decision below. That the highway at this point is an approach to a bridge is not the vital consideration. It is still a public highway.

A city ordinance, under authority of the city charter, provides that adjoining landowners shall keep the sidewalks in safe condition for the use of the public and shall repair all defects endangering public travel. Such a requirement is generally upheld as made in the exercise of the police power. In imposing such a duty the state is requiring of its citizens within the class of abutting owners the performance of a duty which serves the general interest of the community, and so long as the requirement is reasonable and fair, the law is constitutional. The abutter has a special interest in keeping clean and safe the sidewalk in front of his property.

The defendant corporation points out the fact that the highway in question is considerably above the level of defendant's property. This does not alter the nature of the street or the nature of defendant's obligations with reference to the street. Obviously, however, the defendant's property is less benefited by the street at its present level than it would be if the street were constructed on the level of defendant's property. It is to be assumed that this fact was considered in the determination of the benefits and damages resulting to the defendant from the laying out of the street. The street, however, does not lose its characteristics as a public street because it also serves as an approach to the bridge.

One judge dissents, on the ground that to require the defendant to keep in repair the approach to the bridge is unreasonable and therefore unconstitutional.

Public Streets—Vacation—Abandonment—Estoppel

OKLAHOMA. — *Town of Chouteau* v. *Blankenship*, Supreme Court, October 10, 1944, reported in 152 P. 2d page 379.

In 1902, Ohio Street was created by dedication in the unincorporated town of Chouteau. It was not opened, improved, or used for public purposes for 30 years. Prior to 1942, a barn, chicken house, and outhouses were built on the back of the street by the owners of abutting property, which was fenced and used for these purposes and as gardens for about 30 years.

In 1942 the governing board of the town decided to open and use the street for public purposes and notified the owners of the abutting property to remove these buildings. Most of the buildings were removed, and some large shade trees growing in the street were cut down. This is a suit by certain owners of property who have so used the back of the street to enjoin the town from opening the street or preventing the use of the back of the street in connection with the use of their properties.

The Court finds that, contrary to the claim of the appellant property owners, the facts constitute no proof that the town has vacated the street so as to vest title in it in the claimants, and that therefore the prayer for the injunction should not be granted. Only non-use is shown, which is not enough to establish vacation or abandonment. The right to a street may be lost by non-use and such affirmative official acts of the Board of Trustees of the town as show clearly an intention to discontinue; but abandonment may not be shown by non-use alone.

The question of abandonment is closely connected with that of adverse possession. Did the owners of the lots abutting upon Ohio Street acquire title to the street by erecting buildings on it and by use of the street for their special purposes? The title to streets is held by the municipality in trust for the public, and not in a proprietary capacity, and the municipality is without power to alienate them: consequently the municipality is not divested of title by adverse possession for the prescriptive period. The doctrine of adverse possession does not apply to property held by the municipality in trust for the public.

Nor is there an equitable estoppel on account of the improvements made by the claimants on the street; for the person who encroaches upon a public street must know, as a matter of law, that the way belongs to the public and the authorities cannot alienate it or divert it to private use.

Obstructions—Parking

FLORIDA.—*State ex rel. Frazier v. Coleman*, Supreme Court, February 9, 1945, reported in 20 So. 2d, page 911.

A statute of the State of Florida makes it a crime wilfully to obstruct a public road. Frazier parked a car on a city street.

And the court holds that streets of a city are public roads for purposes of maintenance. All streets are highways, but all highways are not streets. But parking a car in a city street is not wilfully obstructing it within the meaning of the statute.

EDITOR'S NOTE

There are many kinds of public highways, whose legal attributes vary with the uses to which these highways are to be put. Thus, there are city streets and country roads, viaducts, bridge approaches and bridges, marginal ways on the water fronts where incoming and outgoing merchandise may be left more freely than on other highways, etc.

A public highway is devoted to motion —of vehicles, of pedestrians, of public services, where needed, like sewage, water in pipes, and electricity on wires. For these purposes the surface of the highway, the space above, and the space below it may be used. A highway is not necessarily open to all kinds of motion, and to restrict it to foot or vehicular passage, or pleasure or business use, or, by proper regulation as to speed, direction, etc., is not an obstruction of the highway.

Access to the land abutting on a highway, of the owner, his customers and friends, and of light, air and view to and from it, is a right usually inherent in such land; but, for rapid flow of through vehicular traffic, "freeways" may be established on which access to abutting lands is permitted only for special reasons and at special places where it aids free traffic most and hinders it least.

As a part of the right of access to land abutting on a highway, it is often necessary to move merchandise across public sidewalks into buildings on such land, and to allow it to remain on such sidewalks at proper places, and for limited periods of time. For such purposes also vehicles must be allowed to park on the highway alongside the abutting land. Such impediments to free passage, coordinated with the general flow of traffic by proper regulations, are not in fact obstructions to motion on the highway, but a necessary part of such motion, aiding rather than hindering it. Evidently such obstacles are in a different class from impediments to motion fastened permanently on or above the surface of the highway, which are allowable only when, like telegraph or telephone poles, they are authorized by public authority as an aid to traffic.

The court in the above case, therefore, was right in holding that the parking of a car on the highway was not an obstruction within the meaning of the statute the court was interpreting.

Planning Conference

See page 131 for details about the ninth annual Conference on City and Regional Planning sponsored jointly by M.I.T. and the American Society of Planning Officials at Cambridge, Mass., Oct. 22 to Nov. 2.

Here's one practical suggestion on how G-E lamps, with proper equipment and maintenance, can help guard lives at night. Modern safety traffic lighting, Alameda, Calif. Remember, good street lighting is the sign of a good place to live.
. . . Good lamps are the heart of good street lighting
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15,000 LUMEN
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5 big advantages!
1. All the latest developments of G-E Lamp Research.
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THE AIM OF G-E LAMP RESEARCH IS ALWAYS
TO MAKE G-E LAMPS Stay Brighter Longer
G-E LAMPS
GENERAL ELECTRIC

Housing Bill Before Congress

(Continued from page 108)

program. The Taft report is in accord.

Rehabilitation

Of special interest is a new provision for the rehabilitation of existing structures for low-income families. Among the other changes proposed in the public housing law are the requirement that projects originate locally and be endorsed by local government; and that cost limitation be amended to a per-room basis, namely, $1,000 (in metropolitan districts, $1,250) per room.

Rural Areas

Farms and rural areas are also beneficiaries of the new housing bill. Two plans are presented: low-interest loans for farmers who do not require subsidy; and loans and annual contributions toward the housing of families of very low income, with a provision for eventual home ownership in some cases. Federal annual contributions would total $25,000,000 yearly at the end of a five-year building program.

Veterans

Preference to families of veterans and servicemen of low income is evident in both the urban and the rural low-rent housing programs. The bill further provides, particularly for use by such families, that permanent war housing built or acquired or operated by the government may be sold forthwith to local agencies where local need warrants.

Support from Taft Report

All of the foregoing proposals find support in the Taft report, with the exception of those on rural housing, where the committee was not prepared to make concrete recommendations as to the scope of federal activity. On the other hand, some features of the committee report, notably proposals with respect to the Federal Home Loan Bank System and the Federal Housing Administration, are not covered in the bill. Currently negotiations are under way to bring the bill more in line with the report; when that is accomplished, it is expected that Senator Taft will join in the sponsorship of the bill with Senators Wagner and Ellender.

Travelling Exhibits of Town and City Reports

THE First National Town and City Reports Exhibition of The American Institute of Graphic Arts will open in the New York Public Library September 25th. At least 65 modern, condensed, and illustrated reports have been selected for exhibition.

The Town and City Reports Exhibition will go next to the Boston Public Library in Boston. Greenfield, Mass., will have the exhibition October 25 and 26, during the annual convention of the Massachusetts Federation of Planning Boards.

There will be two traveling exhibits of the best modernized, annual town and city reports. One is for libraries where the books will be shown under glass. The second will be mounted on boards for use on walls and will show the covers and the best designed pages.

Alfred Willoughby, executive secretary, National Municipal League, and Professor Phillips Bradley, professor of economics at Cornell University, are the municipal authorities on the jury that selected the reports. The Institute members on the committee are headed by the chairman, Arthur Thompson of the Bell Telephone Laboratories; Paul F. Berdanier, art director of J. Walter Thompson Company, is another judge; and Hubert Foster of The Mead Sales Company is a third judge.

Requests should be sent in as soon as possible to the Institute by all towns and cities that wish to have the exhibition. Address your letter to the Town and City Reports Committee, The American Institute of Graphic Arts, 115 E. 40th Street, New York, N. Y.

City Manager Appointments

FRED M. BOONE, city manager of Salpulpa, Okla. since May, 1932, becomes city manager of Neosho, Mo., on August 21. Dan O'Dell, city attorney of Salpulpa, takes over the duties as acting manager of the city.

LT. A. J. BERST, on leave to the Navy since April, 1943, has returned to his post as city manager of Pleasant Ridge, Mich. Frederick C. Peitzsch, who has been acting manager of Pleasant Ridge since 1943, is assuming a post on the ICMA staff.

JAMES W. BRADNER, JR., former manager of Norris, Tenn., for TVA and more recently divisional engineer, Federal Works Agency, Fort Worth, Texas, has been appointed city manager of Waco, Texas, succeeding W. C. Torrence.

HUNTER COCKRELL, former finance officer of the State Tubercular Sanitorium, succeeded H. A. Haden as county manager of Albermarle County, Va., on July 1.

ROBERT L. COOPER, manager of Albuquerque, N. M., from 1926 to 1931, and Port Arthur, Texas, from 1932 to 1937, has been reappointed city manager of Port Arthur, effective July 16.

GARLAND P. FRANKS, assistant city manager of Wichita Falls, Texas, has been appointed city manager of Pampa, Texas, effective September 1. W. C. de Cordova, acting manager of Pampa, will return to his former post as city secretary.

HERBERT D. FRITZ, associate director of the American Public Works Association, has been appointed city manager of Grand Junction, Colo., effective September 1. He succeeds Bruce Brownson.

J. S. HARRISON, city manager of Panhandle, Texas, since July 1942, has accepted the managership of Guthrie, Okla., effective August 15. He succeeds Lloyd Jay. Herbert M. Campbell has been appointed city manager of Panhandle.

LOUIS D. KELSEY, former member of the U. S. Maritime Commission, has been appointed first city manager of Milwaukie, Ore.

T. H. RHEAUME has succeeded Albert G. Bair as city manager of Hollywood, Fla.

CLARENCE E. RIDLEY,
Director, International City Managers' Association, Chicago, Ill.

The Municipal Bond Market

Some sales of new issues as reported in August issues of *The Bond Buyer*:

Amount	Borower and Purpose	Rate (%)	Term (Years)	Basis (%)
$240,000	Erie, Pa., Sch., Dist., Refunding	1.0	2-17 Ser.	.93
300,000	Minneapolis, Minn., Public Relief	1.0	1-10 Ser.	.97
1,000,000	Dallas, Texas, Airport Imp.	1.10	1-20 Ser.	1.148
238,000	Gilbert, Minn., Refunding	1.25	3 Avg.	1.16
5,000,000	Philadelphia, Pa., Sch. Dist.	1.25	13.50 Avg.	1.16
126,000	St. Joseph, Mo., Refunding	1.25	12.33 Avg.	1.17
100,000	Gallion, Ohio, Hospital	1.25	2-26-Ser.	1.25
4,750,000	Washington Toll Bridge Authority, Wash., Revenue Refunding	1.25	6.0/10.0 O.-A.	1.25
2,000,000	Chicago Sanitary Dist., Construction	1.56	10.83/20 O.-A.	1.295
200,000	Tracy, Calif., Municipal Improvements	1.50	10.50	1.46
915,000	Glen Ridge, N. J., Sch. Dist.	1.75	21.50 Avg.	1.713
100,000	Sanford, N. C., Sewer	2.0	13 Avg.	1.889
510,000	Royal Oak, Mich., Water Refunding	2.50	12.50 Avg.	2.423
710,000	Fairlawn, N. J., Sewer	2.50	15.75 Avg.	2.49

NEW YORK EMPTIES ITS WASTE-BASKET

ON JANUARY 1, 1937, nine "Caterpillar" Diesel D8 Tractors were put to work on New York City's giant refuse disposal project on Riker's Island. Each hauled two 30-yard Athey Wagons, carrying boxes, bottles, incinerator residue and other waste material from the unloading derricks to the edge of the man-made island. Three of the tractors were equipped with LaPlant-Choate bulldozers so they could spread and compact the huge loads after they had been dumped.

The majority of these tractors are still in service after eight years of grueling work. Some of them have operated more than 50,000 hours and are still going strong. In this period the fleet has handled over 55 million yards of refuse and is credited with saving more than $800,000 over former costs. So it's a double clean-up for the citizens of New York.

"Caterpillar" Diesels are making comparable records on municipal jobs from coast to coast. Their versatile, year-around, year-after-year power is profitably at work in the front yards and back yards of cities everywhere. Let your "Caterpillar" dealer tell you how these machines can save and serve in your community.

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DIESEL ENGINES • TRACTORS
MOTOR GRADERS
EARTHMOVING EQUIPMENT

The discharged veteran wears this emblem. Remember his service and honor him.

Conventions—When and Where

Sept. 17-18—**Philadelphia, Pa.**
INSTITUTE OF TRAFFIC ENGINEERS. Annual Business Meeting. (Hotel Bellevue-Stratford) Sec.-Treas., W. Graham Cole, 60 John St., New York 7, N. Y.

Sept. 17-20—**Rock Island, Ill.**
BUILDING OFFICIALS' CONFERENCE OF AMERICA. Annual Meeting. Sec.-Treas., Arthur N. Rutherford, Building Inspector, West Hartford, Conn.

Sept. 19-20—**Grand Rapids, Mich.**
AMERICAN WATER WORKS ASSOCIATION—MICHIGAN SECTION. Annual Meeting. (Hotel Pantlind) Acting Sec.-Treas., Raymond J. Faust, Division of Water Supply, Bureau of Engineering, State Department of Health, Lansing 4, Mich.

Sept. 20-21—**Mammoth Cave, Ky.**
KENTUCKY MUNICIPAL LEAGUE. Annual Meeting. (Hotel Mammoth Cave) Exec. Sec., Carl B. Wachs, c/o University of Kentucky, Lexington, Ky.

Sept. 20-21—**Rochester, N. Y.**
MUNICIPAL ELECTRIC UTILITIES ASSOCIATION OF NEW YORK STATE. Annual Conference. (Hotel Sheraton) Sec., T. J. McKee, 200-212 East Third St., Jamestown, N. Y.

Sept. 21—**Denver, Colo.**
AMERICAN WATER WORKS ASSOCIATION—ROCKY MOUNTAIN SECTION. Annual Conference. (Hotel Shirley Savoy) Sec., O. J. Ripple, 517 Majestic Bldg., Denver 2, Colo.

*Oct. 1—**Chicago, Ill.**
NATIONAL SAFETY COUNCIL. Annual Meeting. (Hotel Morrison) Exec. Vice-Pres., Ned H. Dearborn, 20 North Wacker Drive, Chicago 6, Ill.

Oct. 3-4—**Wausau, Wis.**
WISCONSIN CHIEFS OF POLICE ASSOCIATION. Annual Conference. (Hotel Wausau) Sec., R. K. McCarty, Kaukauna, Wis.

Oct. 8—**McPherson, Kan.**
KANSAS ASSOCIATION OF MUNICIPAL UTILITIES. Business Meeting. Sec.-Treas., Edgar P. Showalter, Board of Public Utilities, Kansas 16, Kan.

Oct. 8-10—**Pittsburgh, Pa.**
NATIONAL TAX ASSOCIATION. Annual Conference. Harold William Penn) Raymond E. Manning, Library of Congress, Washington, D. C.

*Oct. 10—**Saranac Lake, N. Y.**
CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS OF THE STATE OF NEW YORK. Regional Institute. (Town Hall) Sec., William P. Capes, 6 Elk St., Albany, N. Y.

Oct. 16-17—**Shreveport, La.**
AMERICAN WATER WORKS ASSOCIATION—SOUTHWEST SECTION. Annual Conference. (Hotel Washington-Youree) Sec., L. A. Jackson, Mgr., Little Rock Water Works, Little Rock, Ark.

*Oct. 16-18—**Columbus, Ohio**
SMOKE PREVENTION ASSOCIATION. Fall Interim Conference. (Hotel Deshler-Wallick) Sec., Frank A. Chambers, 139 North Clark St., Chicago, Ill.

*Oct. 18-20—**Columbus, Neb.**
LEAGUE OF NEBRASKA MUNICIPALITIES. Annual Meeting. (Hotel Evans) Sec.-Treas., C. E. Beals, 310 Continental Bank Bldg., Lincoln, Neb.

*Oct. 21-23—**Richmond, Va.**
LEAGUE OF VIRGINIA MUNICIPALITIES. Annual Meeting. (Hotel John Marshall) Exec. Sec., Harold I. Baumes, 902 Travelers Bldg., Richmond, Va.

Oct. 22-23—**Pittsburgh, Pa.**
ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA. Annual Water Conference. (Hotel William Penn) Chairman, H. M. Olson, Hotel William Penn, Pittsburgh, Pa.

Oct. 23—**Los Angeles, Calif.**
AMERICAN WATER WORKS ASSOCIATION—CALIFORNIA SECTION. Annual Meeting. (Hotel Biltmore) Sec., Blair I. Burnson, P. O. Box 720, Oakland 4, Calif.

Oct. 25—**Oakland, Calif.**
AMERICAN WATER WORKS ASSOCIATION—CALIFORNIA SECTION. Annual Meeting (Hotel Clarmont) Sec., Blair I. Burnson, P. O. Box 720, Oakland 4, Calif.

Oct. 25-26—**Windsor, Ont.**
CANADIAN INSTITUTE OF SEWAGE AND SANITATION. Annual Convention. (Prince Edward Hotel) Sec.-Treas., Dr. A. E. Berry, Dept. of Health, Parliament Bldg., Toronto, Ont.

*Oct. 26-27—**Greenfield, Mass.**
MASSACHUSETTS FEDERATION OF PLANNING BOARDS. Annual Meeting. (Hotel Weldon) Clerk, Miss M. T. Downey, 43 City Hall, Boston, Mass.

*Oct. 30-31—**Chicago, Ill.**
AMERICAN WATER WORKS ASSOCIATION—ILLINOIS SECTION. Annual Meeting. (Hotel La Salle) Sec.-Treas., O. T. Birkeness, c/o Wallace & Tiernan Co., 1229 W. Washington Blvd., Chicago, Ill.

*Nov. 1-3—**Norman, Okla.**
OKLAHOMA SHORT SCHOOL FOR WATER WORKS OPERATORS. Annual Meeting. (Union Building) Sec.-Treas., H. J. Darcy, State Sanitary Engineer, Oklahoma City, Okla.

*Nov. 5-7—**Charlotte, N. C.**
AMERICAN WATER WORKS ASSOCIATION—NORTH CAROLINA SECTION. Annual Meeting with North Carolina Sewage Works Association. (Hotel Charlotte) Sec.-Treas., D. M. Williams, Box 2251, Durham, N. C.

Nov. 8-9—**Roanoke, Va.**
AMERICAN WATER WORKS ASSOCIATION—VIRGINIA SECTION. Annual Conference. (Hotel Roanoke) Sec., W. H. Shewbridge, State Department of Health, Richmond 22, Va.

Nov. 8-10—**Atlantic City, N. J.**
AMERICAN WATER WORKS ASSOCIATION—NEW JERSEY SECTION. Fall Meeting. (Hotel Madison) Sec., C. B. Tygert, Box 178, Newark, N. J.

*Nov. 9—**Atlantic City, N. J.**
SOUTH JERSEY ASSOCIATION OF WATER SUPERINTENDENTS. Fall Meeting. (Hotel Madison) Sec., Walter Spencer, 2707 Bethel Ave., Merchantsville, N. J.

*Nov. 12-15—**Chicago, Ill.**
INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION, INC. Annual Meeting. (Hotel LaSalle) Sec., Irvin Shulsinger, 8 East 41st St., New York 17, N. Y.

Nov. 13-15—**Milwaukee, Wis.**
AMERICAN WATER WORKS ASSOCIATION—WISCONSIN SECTION. Annual Meeting. (Hotel Pfister) Sec., L. A. Smith, Madison, Wis.

*Nov. 14—**Elmira, N. Y.**
CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS OF THE STATE OF NEW YORK. Regional Institute. (Hotel Mark Twain) Sec., W. P. Capes, 6 Elk St., Albany, N. Y.

*Nov. 16—**Utica, N. Y.**
CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS OF THE STATE OF NEW YORK. Regional Institute. (Hotel Utica) Sec., W. P. Capes, 6 Elk St., Albany, N. Y.

*Nov. 20—**Schenectady, N. Y.**
CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS OF THE STATE OF NEW YORK. Regional Institute. (Common Council Chambers, City Hall) Sec., W. P. Capes, 6 Elk St., Albany, N. Y.

Nov. 25-27—**New York, N. Y.**
AMERICAN SOCIETY OF MECHANICAL ENGINEERS. Local Meeting. (Hotel Pennsylvania) Exec. Asst. Sec., Ernest Hartford, 29 W. 39th St., New York, N. Y.

*Nov. 26—**Buffalo, N. Y.**
CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS OF THE STATE OF NEW YORK. Regional Institute. (Common Council Chambers, City Hall) Sec., W. P. Capes, 6 Elk St., Albany, N. Y.

*Nov. 28—**Geneva, N. Y.**
CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS OF THE STATE OF NEW YORK. Regional Institute. (Common Council Chambers, City Hall) Sec., W. P. Capes, 6 Elk St., Albany, N. Y.

*Nov. 30—**Syracuse, N. Y.**
CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS OF THE STATE OF NEW YORK. Regional Institute. (Common Council Chambers, City Hall) Sec., W. P. Capes, 6 Elk St., Albany, N. Y.

** First appearance on this page.*

Ban On Conventions Liberalized

ON August 30 the Office of Defense Transportation announced further liberalizaiton of the ban on conventions, group meetings, and trade shows, effective September 3.

The new provisions authorized by the War Committee on Conventions, are:

State conventions and group meetings may now be held without the necessity of obtaining committee approval, provided attendance is confined to persons residing in or engaged in business within the state in which the event is held, plus not more than 25 persons—such as speakers and honored guests—from outside the state.

Trade shows may also be held, after clearance with the committee, if attendance, exhibits, entries, and exhibitors are drawn from within the state where the show is held. Applications must still be filed for all trade shows. All restrictions on the holding of livestock and other animal shows have been removed.

National and regional conventions and group meetings still require committee approval if the attendance exceeds 150 persons from outside the state where the event is held.

Who Wants These Jobs?

The City of Milwaukee has three important positions to fill for which the City Service Commission will soon hold examinations:

Classification Examiner (Examination October 19, 1945)

Municipal Reference Librarian (Examination October 5, 1945)

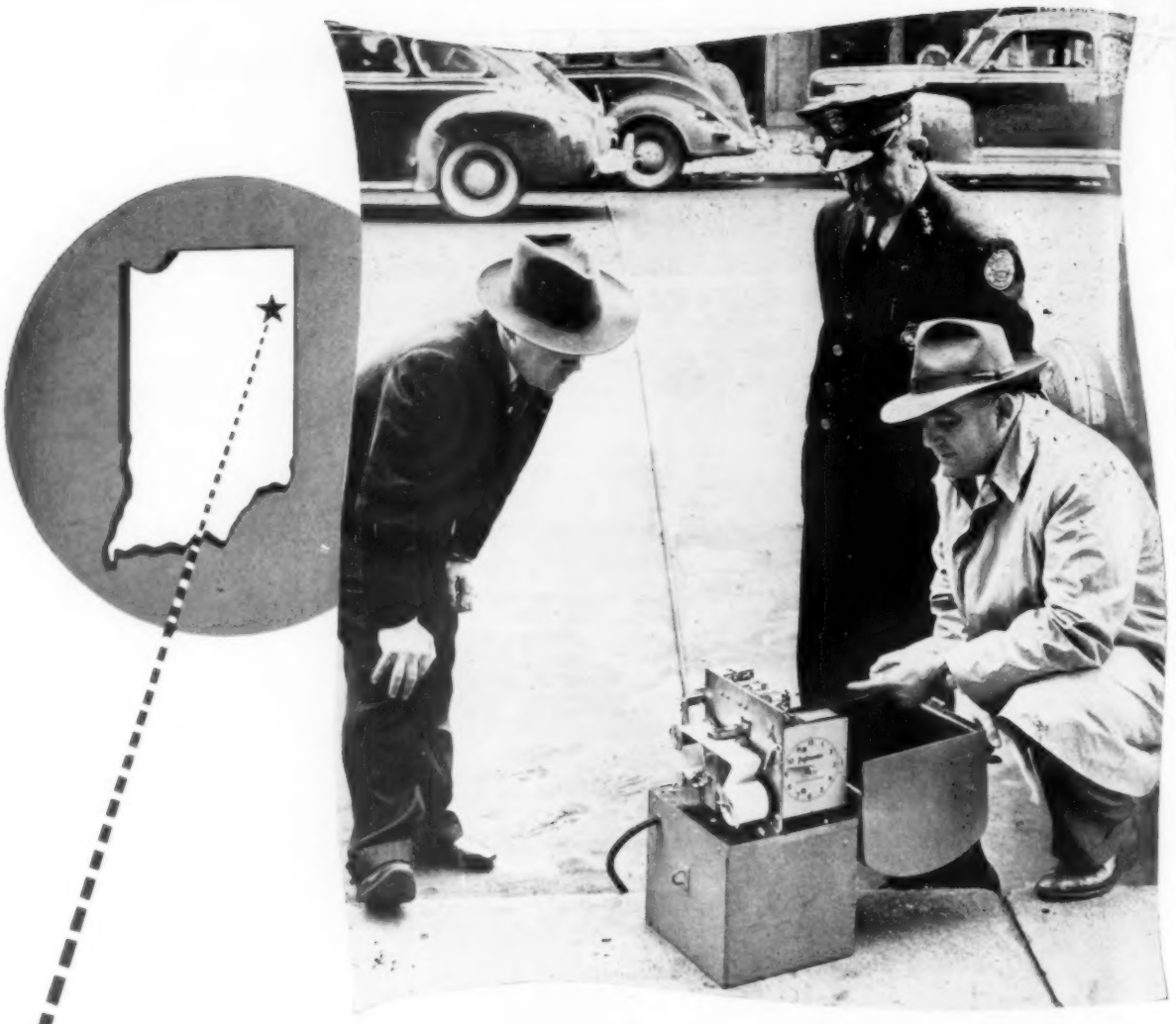
Architectural Planner (Examination October 5, 1945)

The position of Classification Examiner is in the office of the City Service Commission and involves responsibility for keeping up-to-date the recent exhaustive study made for the purpose of reclassifying city positions and correcting inequalities. Newly created for this purpose, the position pays approximately $4,400.

The position of Municipal Reference Librarian does not require knowledge of technical librarianship, but is a research position requiring a background of economics, statistics and political science. Salary: $3,800-$4,600.

The position of Architectural Planner is for work in connection with the development of a comprehensive city plan and requires a general knowledge of housing developments and city planning as well as license as an architect. Salary: $4,000 to $4,900.

For an information sheet giving further particulars, address The City Service Commission, City Hall, Milwaukee, Wis.



Fort Wayne

APPROVES THE TRAFICOUNTER

FOUR years have passed since Fort Wayne's traffic engineering department saw a need for measuring more accurately the trends of traffic fluctuation upon the streets and highways within the city. Since then, all traffic counts have been obtained with Streeter-Amet Traficounters.

Traficounter aids the traffic engineer in locating stop and go signs, establishing parking regulations, planning one-way streets, etc. It is essentially an electric counter and recorder which registers the number of cars that pass over a connecting detector strip. This accurate precision instrument is built by an organization which has specialized in the manufacture of scientific recording instruments since 1888. Write for complete details.

The above picture shows Jack Brewer (right), Streeter-Amet field engineer, explaining the operation of Fort Wayne's first Traficounter, to James White, city traffic engineer and Chief of Police Stumpf. The Traficounter is easy to operate.

STREETER-AMET COMPANY
1732 Belle Plaine Avenue • Chicago 13, Illinois

Traficounter

Municipal and Civic Publications

Planning Airport Facilities

AIRPORT PLANNING FOR URBAN AREAS.—*U. S. Department of Commerce, Civil Aeronautics Administration. June* 1945. 98 *pp. For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington* 25, *D. C.* 20 *cents.*

Prepared to aid metropolitan area planning groups in obtaining knowledge of the fundamentals of airport planning as it affects large-sized communities. The material contained in this booklet also applies specifically to urban areas having diverse types of aviation activities, or where a group of contiguous communities needs a system of airports.

(See page 103 of this issue)

The Legislative Year in Review

MUNICIPAL LEGISLATION OF 1945.—*By Charles F. Leedecker. Report No.* 158, *American Municipal Association,* 1313 *E.* 60*th St., Chicago* 37, *Ill.* 29 *pp., mimeo.* $1.00.

A review of state legislation of special interest and significance to municipal governments. More than 230 laws passed by the forty-four state legislatures which met during the current year, all of them affecting municipalities, are analyzed in this report. Special emphasis is put on legislation dealing with such important post-war problems as veterans, aviation, post-war reserves, public works, urban redevelopment, and housing.

Decentralization and Urban Transportation

URBAN TRANSPORTATION.—*Transportation and Communication Department, Chamber of Commerce of the United States, Washington, D. C., May* 1945. 15 *pp.*

A committee of the Chamber of Commerce Transportation and Communication Department has set down twelve recommendations for more efficient urban transportation. These include suggestions concerning public and private transportation, main street systems, subways, street parking, off-street parking, motor truck service, truck loading and unloading, taxicabs, unified regulation, staggered hours and other conservation measures.

Program for Safeguarding Family Life

BUILDING THE FUTURE FOR CHILDREN AND YOUTH.—*Next Steps Proposed by the National Commission on Children in Wartime. Children's Bureau, U. S. Department of Labor, Washington* 25, *D. C. April,* 1945. *Mimeo.* 55 *pp.*

With the aim of assuring the proper health, education, and welfare of children in the transition from wartime to peace, the National Commission on Children in Wartime submits its recommendations resulting from more than a year's study of the numerous problems faced in child welfare. Proposals are outlined for state and community action, for extension of federal and state cooperative programs for children, and for immediate study.

Portrait of a Summer Resort

FALMOUTH, MASSACHUSETTS.—*By Millard C. Faught. Columbia University Press, Morningside Heights, New York City.* 1945. 190 *pp.* $2.75.

The social and economic problems arising in a resort community. The author, himself a summer resorter, discusses such interesting questions as the cost of living in a resort town, "natives" versus the summer guests, where the taxes come from, where the summer people come from, how local government operates. Although this detailed study, which the author documents with extensive statistics and graphs, was made in one particular resort town, the problems analyzed here apply to many similar towns throughout the country.

Municipal Revenue Bonds

LEGAL PROBLEMS INCIDENT TO REVENUE BOND FINANCING.—*By David M. Wood. Report No.* 112. *National Institute of Municipal Law Officers,* 730 *Jackson Pl., N.W., Washington* 6, *D. C.* 1945. 15 *pp.* $2. *Free to Members of the Institute.*

Of value to all who are interested in municipal bonds, especially useful to city officials concerned with municipally owned utilities. Written by an authority on the legal aspects of municipal bonds, this booklet is the first of a series of reports by the Institute's Committee on Municipally Owned Utilities.

Salaries of Virginia Municipal Officials

ANNUAL SALARIES OF MUNICIPAL OFFICIALS IN VARIOUS VIRGINIA CITIES AND TOWNS.—*Report No.* 289. *League of Virginia Municipalities,* 902 *Travelers Building, Richmond* 19, *Va. July* 1945. 50*c. Distribution free to Virginia municipal officials.*

Tabulation of annual salaries of Virginia city and town officials taken from questionnaires dated March 1945. Twenty-two cities and 59 towns are covered by this compilation.

Compilation of American Standards

AMERICAN STANDARDS.—*Published by the American Standards Association,* 70 *E.* 45*th St., New York* 17, *N. Y. April* 1945. 23 *pp. Available free of charge.*

A new list of all American Standards and War Standards approved to date and their prices, containing approximately 800 in all, which cover specifications for materials, methods of tests, dimensions, definitions of technical terms, procedures, etc., in the electrical, mechanical, building, transportation, textile, and other fields. For ready reference, the standards are listed alphabetically as well as by engineering fields. There is also a separate list of the War Standards—for jobs carried through since Pearl Harbor at the specific request of Army, Navy, or industrial groups.

Stream Pollution Abatement

A RATIONAL EXAMINATION OF STREAM POLLUTION ABATEMENT.—*By Richard D. Hoak. Reprinted from* Science, *May* 25, 1945. 6 *pp. Free copies available from the Mellon Institute of Industrial Research, Pittsburgh* 13, *Pa.*

A discussion of stream pollution written for laymen. Because pollution abatement involves many conflicting factors, the author believes that it is desirable from time to time to re-examine the subject and consider its fundamentals. He discusses stream function, natural purification in streams, present extent of water pollution, the problem of waste treatment, public attitude toward treatment, administration of pollution abatement, the future of pollution abatement.

White Plains Central Business District

A PLAN FOR THE CENTRAL BUSINESS AREA.—*City of White Plains, N. Y. Report to the Post-War Planning Commission. By Arthur C. Holden, Holden, McLaughlin and Associates,* 570 *Lexington Ave., New York* 17, *N. Y. Illus.* 4 *appendices.* 36 *pp.*

A proposal for the replanning and redevelopment of the properties in the central business area, and pertinent adjacent areas, of White Plains, N. Y., submitted to its Post-War Planning Commission. This suggested plan aims to initiate discussion and study for the rehabilitation of the entire area under a major plan for the city. A principal feature of the plan is its recommendation that a mall be created at the entrance to the city to provide for a parking space surrounded by planting for four hundred cars.

(See page 125 of this issue)

How to Organize a Community Service Agency for Veterans

KEEPING FAITH WITH THE VETERAN: THE COMMUNITY'S RESPONSIBILITY IN PROVIDING JOBS AND CARE FOR RETURNING SERVICEMEN AND WOMEN.—*Chamber of Commerce of the United States, Washington* 25, *D. C.* 21 *pp.*

Offers suggestions and recommendations for the formation and operation of community service centers for veterans—"one-stop agencies where efforts and information may be coordinated, integrated and improved; where duplication may be located and eliminated; where the veteran may find a direct, interested, and helpful answer for his problem or his need."

Annual Report—New York School System

ALL THE CHILDREN.—*Forty-Fifth Report of the Superintendent of Schools of the City of New York for the School Year* 1943-1944. *John E. Wade, Superintendent of Schools. Board of Education,* 110 *Livingston St., Brooklyn, N. Y.* 69*pp.*

Once again the Board of Education of New York has issued an effective and handsome report of its activities during the past year which sets forth the aims and objectives of the school system and endeavors to show what is being done to achieve these aims. Its chapters deal with Character, Health and Welfare, New Trends in Junior High Schools, High Schools in Wartime, Social and Vocational Competency, Personnel. Also, New York's post-war building program, which includes plans for 80 school buildings at a cost of $126,700,000 with seating accommodations for 106,000 students, is reviewed in the final chapter, When We Start To Build Schools Again.

A Major Street Plan for Toledo

TENTATIVE MAJOR STREET PLAN.—*Toledo-Lucas County Planning Commission. Published June* 30, 1945, *as a supplement to The Toledo City Journal by the Commission of Publicity and Efficiency.* 15 *pp.*

A tentative report of the City Planning Commission of Toledo for a major street plan, subject to further study and change before final recommendations are made. Among the highlights of the plan are a scheme of primary, secondary, and tertiary thoroughfares designed to feed traffic into each other and into the express highways, and its recommendations for the construction of an outer drive and inner drive, one to circle the city near its borders and the other to enclose the downtown area.

Parking Facilities Examined

TO PARK OR NOT TO PARK?—*Survey of Municipal Public Parking Lots by the Commonwealth of Massachusetts State Planning Board,* 11 *Beacon St., Boston, Mass. March* 1945. 5 *pp., mimeo.*

A compilation of data furnished by the planning boards of 57 municipalities of over 10,000 population in the state of Massachusetts, showing the number, type, and capacity of municipal parking lots up to date.

Government Revenue, Expenditure, and Debt Summarized

TABLE SUMMARIZING STATE AND LOCAL GENERAL-GOVERNMENT FINANCES, BY TYPE OF GOVERNMENT.—*Second Supplementary Extract from* Governmental Finances in the United States: 1942. *Bureau of the Census, Washington* 25, *D. C. June,* 1945. 11 *pp.*

This report summarizes the revenue, expenditure, and debt of each type of government found within each state area, and is offered for the special convenience of users of summary figures, and for those who need these data before the complete report, containing detailed tables, is printed.

PLAN FOR BETTER EQUIPMENT, TOO!

Big 2½ yard T7 TRAXCAVATOR grading new street in San Francisco

Loading sand at Portland, Maine . . . one of many tasks for this city's TRAXCAVATOR

T4 TRAXCAVATOR loading excess dirt from shoulders on an Indiana road job

WHEN the "go-ahead" signal is given, your well-planned construction projects will get off to a flying start if you have planned to "TRAXCAVATE" — for it's the modern earth-moving and material-handling method. TRAXCAVATORS, the dependable tractor excavators, combine in one machine the usefulness of a shovel, loader, scraper, bulldozer, anglegrader, etc. There's a size for every job and purpose. Your TRACKSON-"Caterpillar" dealer will be glad to give you the complete and revealing story, or write to the TRACKSON COMPANY, Dept. AC-95, Milwaukee 1, Wisconsin.

Post-War Reconstruction

POST-WAR GOALS AND ECONOMIC RECONSTRUCTION.—*Edited by Arnold J. Zurcher and Richmond Page. Published by the Institute on Post-War Reconstruction, New York University, Washington Square, New York 3, N. Y. 1944. 304 pp. $3.50.*

A compilation of fourteen addresses delivered at the Second Series of Conferences of the Institute on Post-War Reconstruction held during the fall and winter of 1943-1944. Three of the addresses in this volume deal with the post-war aims of industry and labor, two are devoted to the relatively short-term problems of reabsorbing labor to peacetime pursuits and disposing of war production inventory, three discuss the international aspects of our post-war economy, and six relate to questions of economic theory and practice which will loom large in any discussion of long-range post-war policy. Speakers represented at this conference whose talks are reproduced in this book are Leon Henderson, Leverett S. Lyon, Emil Rieve and Boris Shishkin, Benjamin Higgins, Gardiner C. Means, Mabel Newcomer, Alvin H. Hansen, Thurman W. Arnold, Frank B. Jewett, Donald H. Davenport, William C. Clark, Eugene Staley, Abraham D. H. Kaplan, and Calvin B. Hoover.

Coordinated Planning and Designing

THE LOCAL HOUSING AUTHORITY AND THE ARCHITECT.—*By Oliver C. Winston. Public Administration Service, 1313 E. 60th St., Chicago 37, Ill. 1945. 16 pp. 50 cents.*

A comprehensive outline of the steps to be followed and the various factors to be considered in order to produce plans for public housing which will be attractive, suitable, and economical. The author, who has been connected with public housing for many years, particularly stresses the importance of an effective working relationship between local housing authorities and the architects on whom they depend for the design of successful projects.

Party Politics

POLITICAL PARTIES: AN AMERICAN WAY.—*By Franklin L. Burdette. National Foundation for Education in American Citizenship & Public Affairs Committee, Inc., 30 Rockefeller Plaza, New York 20, N. Y. 32 pp., illus. 10 cents.*

This second pamphlet in the *Basic American Concepts Series* tells the story of the development of the two-party system and appeals to the citizens for more active participation in politics to make political parties a constructive social force. The author describes the actual workings of party organizations on all levels of government and concludes: "Political parties remain the greatest instrument for transmitting the public voice into specific decisions; so long as they remain representative of the country, their power and responsibility will continue to be indispensable in democratic government."

Bibliography on Government Administration

YOUR BUSINESS OF GOVERNMENT: A CATALOG OF PUBLICATIONS IN THE FIELD OF PUBLIC ADMINISTRATION.—*Public Administration Service, 1313 E. 60th St., Chicago 37, Ill. 1945. 30 pp.*

Latest listing of publications issued by the Public Administration Service on various phases of governmental administration, as well as the publications available through the national organizations of public officials having their headquarters at "1313"—American Municipal Association, American Public Welfare Association, American Public Works Association, American Society of Planning Officials, American Society for Public Administration, Civil Service Assembly, Council of State Governments, Federation of Tax Administrators, International City Managers' Association, Municipal Finance Officers Association, National Committee on Municipal Accounting, National Association of Assessing Officers, National Association of Housing Officials, Public Administration Clearing House, and Joint Reference Library.

Civic Training for Citizen Junior

YOUTH AND YOUR COMMUNITY.—*By Alice C. Weitz. Public Affairs Pamphlet No. 108. Public Affairs Committee, Inc., 30 Rockefeller Plaza, New York 20, N. Y. 1945. 31 pp. 10 cents.*

Prepared in cooperation with the Youth Conservation Committee of the General Federation of Women's Clubs, headed by Judge Anna M. Kross, this pamphlet presents a new approach to the problem of juvenile delinquency. The author believes that coordinated community programs, designed to give young people greater civic responsibilities, will not only solve the problem of too much leisure which so often results in delinquency, but will also educate youngsters to become law-abiding citizens. The pamphlet outlines existing programs which have been put into practice by communities and private organizations throughout the country and makes additional recommendations for youth-group leaders and municipal officials concerned with this important problem.

(See page 114 of this issue)

McAllen, Texas, Diagnoses Its Tax System

A BRIEF ON ASSESSING PRACTICES IN MCALLEN.—*Prepared in connection with an address delivered to the Valley City Officials' Association July 31, 1945. Bill N. Taylor, City Manager, McAllen, Texas. 24 pp.*

In the belief that McAllen's assessed values are extremely low for a city of its size, the City Manager has collected some miscellaneous material relating to tax assessments and has set forth some recommendations which he believes will assure an efficient and impartial assessment practice. The report compares McAllen's average assessed valuation with that of twenty typical cities in twenty different states and recommends a minimum total assessed valuation for McAllen of $825 per capita, or a total of $9,900,000, based on an assessment of 75 percent of the normal market value. A report of the 1945 Board of Equalization to the City Council, an editorial from the *Valley Evening Monitor*, and an editorial from *Public Management* are contained in this report, supporting and amplifying the need shown for a new appraisal of taxable property in the city.

Planning Survey, Fort Smith, Ark.

FORT SMITH—FORWARD BY PLAN.—*Post-War Planning Survey. Sponsored by the Fort Smith Chamber of Commerce. Fort Smith, Ark. 40 pp.*

This analysis of the economic structure of Fort Smith, Ark., is intended to serve as a foundation for a post-war plan of the area. It is a cooperative project of seven agencies—the Committee for Economic Development, Bureau of Research of the University of Arkansas, U. S. Department of Agriculture, Arkansas Economic Council, Arkansas State Planning Board, Federal Reserve Bank of St. Louis, and the Fort Smith Chamber of Commerce.

The results of a survey taken among 477 workers considered generally representative of the total labor force are summarized in the report. An attempt was made in the survey to answer questions about the people's plans for employment after the war—how many hope to keep their present jobs, how many may be expected to leave the labor force because they plan to keep house, to do farm work, to go to college, and other questions.

Assessment Ratios in Illinois

ASSESSMENT RATIOS (PRELIMINARY).—*Publication No. 70. Research Department. Illinois Legislative Council, Springfield, Ill. June 1945. Mimeo. 21 pp.*

Intended to provide a source of factual information about problems concerning which the General Assembly of Illinois may be called upon to act, this booklet discusses the history of statutory assessment ratios in Illinois, the issues involved, determination of assessment ratios, assessment ratios in Illinois counties, consequences of fractional assessment, full value assessment, and the ways to achieve full value assessments.

why this way?

when it can be *this* way:

with Dean truck mounted valve operator

RENSSELAER VALVE CO.
TROY N. Y.

The VETERANS *are coming* HOME

To communities desiring to express their appreciation to returning veterans, a most effective and dignified means is suggested by Robbins Medallic awards.

These superb medals reflect the character and dignity of the community and the great pride it takes in its fighting sons.

The Robbins Company, manufacturers of emblems and plaques for over fifty years, has created municipal medallic awards of unsurpassed beauty and craftsmanship, in keeping with their high purpose. Designs submitted without obligation. Send for new folder, "In appreciation to Returning Servicemen."

The Robbins Co.
Ideas in Metal
ATTLEBORO, MASS.

ARMY AIR FORCES AWARD BRIGGS & STRATTON *"Approved"* QUALITY CONTROL RATING

For over two years Briggs & Stratton has produced the General Electric high-tension magnetos used on the 18-cyl. Pratt & Whitney 2000 h. p. engines powering high-flying fighters, bombers and transport planes. In recognition of the high standards of inspection procedures and control in the manufacture of these magnetos, the U. S. Army Air Forces have accorded to Briggs & Stratton the "APPROVED" Quality Control Rating.

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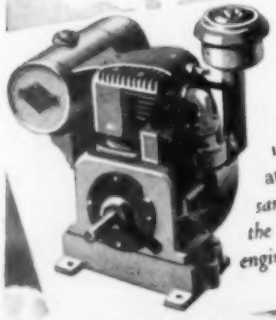
GASOLINE ENGINES



The ultra-precision construction, close tolerances, and rigid inspections necessary in making these high-tension magnetos is far more exacting than generally used. Yet no special preparations were needed at Briggs & Stratton,— *because for many years, this same watch-like precision has been the outstanding factor in the long life and superior performance of Briggs & Stratton engines!* Briggs & Stratton Corp., Milwaukee 1, Wis., U.S.A.

ALL OVER THE MAP!

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Kelly concrete cased wells are especially adapted for developing large water supplies from sand and gravel formations.

We Guarantee our wells to develop all available water, sand free, to their full capacity.

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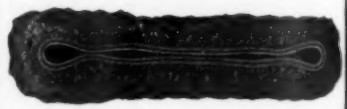
Grand Island, Neb.

WHY—



The above illustration shows the position of the rubber lining in

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when it is held in a flattened position between calls into service. This is why we can save a city one replacement, because the hose will give double the service of any hose constructed under the old method.

— Also —

We can load 25% more on the apparatus-bed, actually making an $8,000 truck loaded with the Bi-Lateral construction cheaper than one priced at $7,000 when loaded with other construction.

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Supplementing Municipal Revenue

NEW SOURCES OF MUNICIPAL REVENUE.—*May, 1945 issue of* Municipal Finance, *1313 E. 60th St., Chicago 37, Ill. 36 pp. Subscription $1.50 per year (issued quarterly). 50 cents per copy.*

This issue of *Municipal Finance*, official organ of the Municipal Finance Officers Association of the United States and Canada, is devoted to New Sources of Municipal Revenue; and the articles under this heading cover Supplementing the General Property Tax; Cities Seek Additional Revenue; Distribution of Motor Fuel Taxes Among Washington Counties; New York Examiner State Aid to Localities; State and Local Taxation of Federal Property; New Revenue for Michigan Cities; Real Estate Tax in Maine; Homestead Exemption in DeLand, Fla.; Shared Taxes in Massachusetts.

Exhibit—Small House for Tomorrow

TOMORROW'S SMALL HOUSE.—*The Museum of Modern Art Exhibition, May 28-September 30, 1945. Edited by Elizabeth B. Mock. Bulletin No. 5 of the Museum of Modern Art, 11 W. 53rd St., New York, N. Y. 19 pp.*

Models and plans of a current exhibition at the Museum of Modern Art, directed by Elizabeth B. Mock, Curator of Architecture, are reproduced in this booklet. Architects include George Fred Keck, Carl Koch, Philip Johnson, Mario Corbett, Hugh Stubbins, Jr., Plan-Tech Associates, Vernon DeMars, Frank Lloyd Wright. Of particular interest, "The House in its Neighborhood," a collaborative project of the *Ladies' Home Journal* and the Museum of Modern Art, using the models exhibited, depicts a neighborhood unit for 1,000-1,500 families complete with parking facilities, shopping center, recreational facilities, school, etc.

Standards on Cement

A.S.T.M. STANDARDS ON CEMENT (WITH RELATED INFORMATION.)—*American Society for Testing Materials, 260 S. Broad St., Philadelphia 2, Pa. December, 1944. 169 pp. $1.50.*

This compilation of the 19 A.S.T.M. standards effective in 1944-1945 giving specifications and tests for cement is particularly significant since it gives, in their latest form, numerous tests that have been established separately instead of in the combined form previously issued as C77. Tests for sampling, fineness, normal consistency, soundness, and tensile strength, as well as time of setting, are now issued as individual tests. The specifications cover natural, masonry and portland cements, and air-entraining cement for pavements. Extensive methods of chemical analysis are given and other physical tests.

Civic Planning Conference

AMERICAN PLANNING AND CIVIC ANNUAL—*Edited by Harlean James, American Planning and Civic Association, 901 Union Trust Bldg., Washington, D. C. 1944. 178 pp. $3.*

The principal papers and addresses delivered at the Citizens Conference on Planning, held at St. Louis, Mo., in 1944, and other articles concerned with recent advances in civic planning. Each of the main sections of the book—on national, state and local planning—places emphasis on post-war problems. Included are discussions and articles on such questions as a national highway program, post-war municipal finance, "People's Parks," and a whole section dealing with the citizen's role in planning.

Revised Building Code

TENTATIVE PROPOSED ORDINANCES.—*Recodifying Existing Ordinances and Creating a New Building Code Affecting Construction, Wiring, Plumbing and Heating. City of Toledo, Ohio. Prepared by Special Council Committee. May 1945. 109 pp.*

A tentative proposed building code to supersede the present Toledo building code and ordinances affecting construction, wiring, plumbing, and heating, prepared by the Commission of Publicity and Efficiency at the direction of the City Council of Toledo.

Method of Preparing City or Town Maps

MAP MAKING IN THREE EASY STEPS.—*State Planning Board, 11 Beacon St., Boston Mass. Mimeo. 7 pp. 4 Plates.*

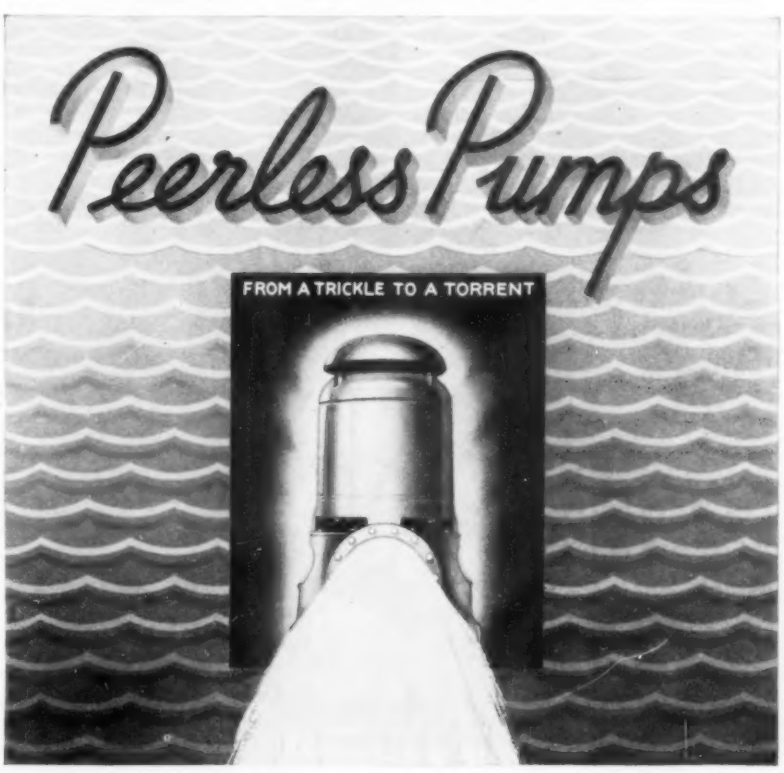
A simple and practicable way of using U. S. Geological Survey sheets in preparing city and town maps is described by Louis H. Smith, Assistant Civil Engineer of the Massachusetts State Planning Board. These sheets are on a scale of ½ miles to the inch and cover 7½ minutes of latitude and longitude, and are the result of a combination of both ground and aerial surveys, with a high degree of accuracy.

According to Elisabeth M. Herlihy, Chairman of the Planning Board, an accurate map of a community is the most effective possible tool with which to implement planning or zoning studies. "Since many municipalities, particularly in the less densely populated sections of Massachusetts, have hesitated to incur the expense of an actual survey, the opportunity is now or shortly will be open to them to secure a generally satisfactory and adequate map at relatively small expense. It is to bring this opportunity to the attention of local planning and zoning agencies and to the municipalities they represent that this publication has been prepared."

Master Plan

TOWN IN TRANSITION—*By Ralph C. Flewelling. Prepared and Presented in the Interests of Scientific Planning by Ralph C. Flewelling and Associates, Architects, 816 W. Fifth St. Los Angeles 13, Calif. 1945. Drawings by E. W. Genter, Jr. Numbered edition.*

An attempt to portray graphically and in non-technical terms the elements which contribute to healthy civic growth. According to the author, planning is not only "for the people," but must also be "by the people." Drawings of a *theoretical* community in transition with running text.



FROM DEEP WELLS—15 TO 30,000 G.P.M.

At first glance, most deep well turbine pumps look very much alike. But in the Peerless turbine design you will find many exclusive features—the difference between ordinary service and highly efficient performance. The Peerless method of cooling the motor bearing lubricant in the head, the ingenious packing arrangement, the enduring shaft bearing contacts and the Double Seal under each impeller, are indicative of the superlative Peerless engineering characteristics.

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PEERLESS PUMPS

PEERLESS PUMPS

PEERLESS PUMP DIVISION
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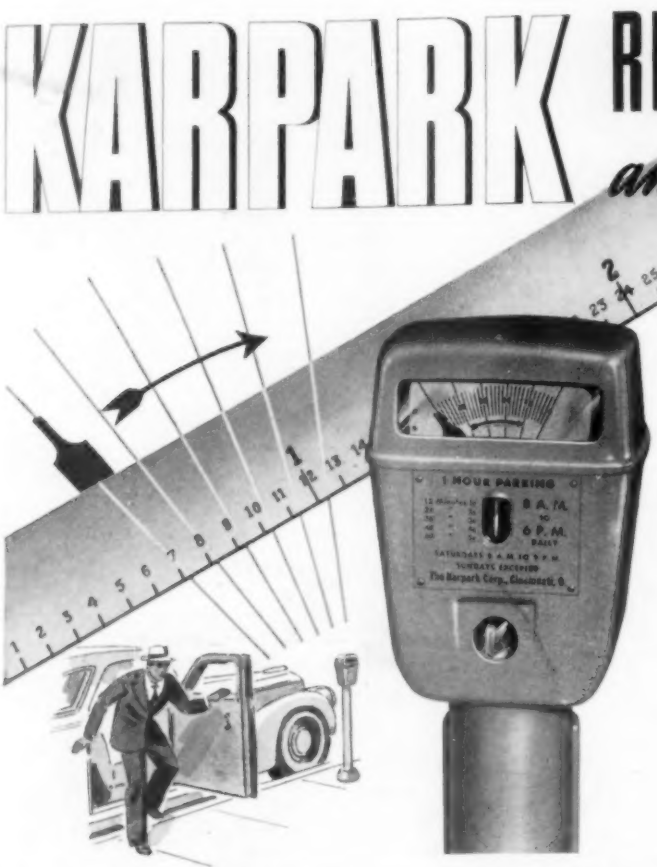
QUINCY, ILL. • CANTON 6, OHIO

KARPARK RELIABLY MEASURES *any parking time wanted*



• Measuring minutes to hours and for pennies to quarters, the KARPARK is "tailor-made" to the parking need. It is available in any practical time and coin combination. For instance, the popular penny progressive nickel type permits 12 minutes parking for one penny, 24 minutes for two pennies and so on up to one hour for five pennies or a nickel. Other KARPARKS measure one hour, two hours, or more for any coin charge desired. This adaptability is another reason why the KARPARK is so popular with the public and so satisfactory to the cities that profit by its efficiency. Write for further information. Know all the reasons why KARPARK is *the wise choice.*

KARPARK *Automatics*

KARPARK CORPORATION, CINCINNATI 6, OHIO

KARPARKS ARE MANUFACTURED BY THE HERSCHEDE HALL CLOCK CO.

"LOCK-LID" STREET WASHERS 3/4" and 1" SIZES

MURDOCK

A RELIABLE NAME ON OUTDOOR WATER SERVICE DEVICES

Since 1853

ANTI-FREEZING OUTDOOR DRINKING FOUNTAIN

LARGE ANTI-FREEZING HYDRANTS 1½" TO 2" INCLUSIVE

SELF-CLOSING ANTI-FREEZING HYDRANT

ANTI-FREEZING COMPRESSION HYDRANT

DO THIS ONCE A YEAR

Brush a little green paint on your MURDOCK Outdoor Water Service Devices. Polish the bowls of Drinking Fountains. This will make them look like new.

Murdock products require little care and attention for the service they furnish. They don't give trouble.

So that your people may fully enjoy their blessing of abundant, good drinking water, advocate the installation of a Drinking Fountain at every prominent corner, transfer point and bus stop.

The Murdock Mfg. & Sup. Co.
426 Plum St. Cincinnati 2, Ohio

"IT PAYS TO BUY MURDOCK"

7 things you should do to keep prices down

If prices soar, this war will last longer, and we could all go broke when it's over. Uncle Sam is fighting hard to keep prices *down.* But he can't do it alone. It's up to you to battle against any and every rising price! To help win the war and keep it from being a hollow victory afterward—you must *keep prices down.* And here's how you can do it:

1. Buy only what you need
2. Pay no more than ceiling prices
3. Support higher taxes
4. Pay off old debts
5. Don't ask more money
6. Save for the future
7. Buy Bonds

KEEP PRICES DOWN

Use it up . . . Wear it out . . .
Make it do . . . Or do without.

Contributed by this magazine in cooperation with the Magazine Publishers of America.

Origin of Place Names in United States

NAMES ON THE LAND: AN HISTORICAL ACCOUNT OF PLACE NAMING IN THE UNITED STATES.—*By George R. Stewart. Random House. New York. 1945. 418 pp. $3.00.*

There is fascination in the strange circumstances under which names long familiar came into being—names of our small towns, cities, counties, states, our roads and streets, our bays, capes, islands, our creeks, rivers, mountains. The author traces the origin and evolution of the principal place-names in the United States over a period of more than four centuries, during which time names have arisen in every conceivable fashion—by description, by patriotic commemoration, by ownership, by accidents, by irony. Humor has been a motive, along with love of beauty, religion, advertising, and sheer vanity.

Rural-Urban Organization

RURAL-URBAN COORDINATION.—*By C. S. Hunsinger. Published by Rural-Urban Coordinating Council, Flat Rock, Ohio. 1945. Illus. 50 cents.*

The author, who has been active in rural community work for many years, describes the organization and work of the Rural-Urban Coordinating Council which was initiated by rural people in order to secure fire protection, library services, and other public conveniences. This organization unites all government agencies, schools, churches, and business bodies within a rural area and provides a definite contact with the corresponding organizations in the city where the rural people transact business and enjoy many public services.

Also outlined are a Suburban Coordinating Council and a Public Committee for Unincorporated Villages; the pamphlet includes a specimen Township Council Bulletin.

The Co-op Movement

AMERICAN COOPERATIVES.—*By John Daniels. The New Leader Publishing Association, 7 E. 15th Street, New York 3, N. Y. 39 pp., illus. 25 cents.*

Based upon a series of five articles written for *The New Leader* and published by that paper between November 1944 and February 1945, this booklet is intended to give an overall picture of the cooperative movement.

The author, who has thoroughly studied the cooperatives over a long period of time, claims that, in view of the progress they are making in business operations, their economic future looks promising. However, co-ops are not only an economical but also a democratic way of conducting business, and they are not doing so well on the democratic side. The reason for this, according to this observer, is largely inertia of rank-and-file members of local units which results in too much control at the top. He concludes: "Economic success is the body of cooperative progress, but democratic success is its soul. Both must go forward together."

Citizen Participation in Planning Proposed

CITIZEN SUPPORT FOR PLANNING AND DEVELOPMENT.—*By Charles W. Eliot. Based Upon Paper Presented in Series on Plans for Los Angeles, Central Library, April 1945. 12-page pamphlet available from American Planning and Civic Association, Union Trust Building, Washington, D. C.*

A discussion of the contribution private citizens can make in the field of planning and development, by the director of the Haynes Foundation. Among the proposals advanced is the organization of a Citizens Planning Council for Metropolitan Los Angeles. A number of citizens groups active in the planning field are listed.

Other Reports Received

ALLIANCE, NEBR.—Annual Report of the City Manager. 1944. 39 pp.

CHICAGO, ILL.—Annual Report of the Chicago Plan Commission for the Year of 1944. 32 pp.

DETROIT, MICH.—*Planning Detroit* 1944. 26th Annual Report of the City Plan Commission. 34 pp.

DUBUQUE, IOWA.—45th Annual Report of the Water Department, April 1, 1944 to March 31, 1945. 48 pp.

EAST ORANGE, N. J.—*Major Streets.* Second of a Series of Reports by the City Planning Board. 1945. 54 pp.

LEWISTON, IDAHO.—Annual Report. Airport, Engineering, Street and Water Departments. For Fiscal Year Ending June 30, 1945. 40 pp.

LYNCHBURG, VA.—Annual Report. For the Fiscal Year Ended December 31, 1945. 56 pp.

MARQUETTE, MICH.—Reports Published by Authority of the City Commission. For the year ended December 31, 1944. 110 pp.

ORLANDO, FLA.—Annual Report of the Orlando Utilities Commission for 1944. 4 pp.

PEORIA, ILL.—Seventh Annual Report of the Peoria Housing Authority, 1944-45. 24 pp.

PITTSBURGH, PA.—*Housing in Wartime Pittsburgh.* Summary of Activities 1943-45. Pittsburgh Housing Association. Financed by the Community Fund. 50 cents. 28 pp.

—Annual Report by the City Planning Commission. 1944. 33 pp.

SOUTH CHARLESTON, W. VA.—Second Annual Progress Report of the Planning Commission. For the Period Ending June 30, 1945. 27 pp.

TENNESSEE.—*Industrial Resources of Tennessee.* Compiled by George I. Whitlach. Tennessee State Planning Commission. 1945. 210 pp.

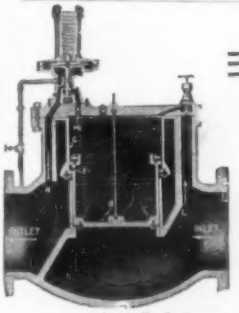
TOPEKA, KANS.—Annual Report for the Year 1944. Issued by Department of Finance and Revenue. 22 pp.

WATER MAIN Sterilization

We provide chemicals, equipment and experienced operator ready to serve you within 200 miles of Washington, D. C.

Write us for information

LUTHER and WOOD
310 Chandler Bldg., Wash. 5, D.C.
Phone NA. 2123



SINGLE ACTING SEMI-THROTTLING ALTITUDE VALVE ★

Installed in upstream line to tanks, standpipes or reservoirs, this valve sensitively maintains any desired water level to prevent overflow.

The valve is semi-throttling by gradually closing as water approaches the maximum water level to be controlled. The valve is self-contained without any waste of water from above the valve piston, and is especially desirable for service where a low head is to be maintained against a higher influent pressure.

Write for Specifications

GOLDEN-ANDERSON VALVE SPECIALTY CO.
Fulton Building Pittsburgh, Pa.

...Prevent Tank Rusting

Electrically **Modern, service-proved Rusta Restor method...using safe, low voltages...gives lasting protection... for the cost of just one good paint job.**

• Your tanks too can get lasting protection against rusting with Rusta Restor. Not a "magic", but the thoroughly proven cathodic (i. e. electrical) process, Rusta Restor maintains the tank in an "electro-negative" state that prevents rusting. Modest in first cost . . . Uses the current of only one light bulb.

Send for Catalog

RUSTA RESTOR
A DIVISION OF
THE JOHNSTON AND JENNINGS COMPANY
861 ADDISON ROAD • • CLEVELAND 14, OHIO

PARK-O-METER

Now Automatic UNIVERSAL

The only *Truly Modern* parking meter. Requires only 30 seconds to set for any required time or coin combination. Unfailingly dependable when set to operate with one to 10 pennies; five pennies and a nickel; one nickel or two nickels, and for either one or two hours. That's what we mean by UNIVERSAL automatic.

The ONE METER *which meets Every Operation Need*

Parking meter operation needs vary within cities and change with time and experience. This meter . . . *and only this meter* . . . is readily adjustable to these varying conditions . . . now and later.

write for complete information

Magee-Hale
PARK-O-METER COMPANY
COMMERCE EXCHANGE BLDG.
OKLAHOMA CITY 2, OKLAHOMA

MACNICK COMPANY, *Manufacturers*, TULSA, OKLAHOMA

News and Illustrations

Items of Interest to City, Town, and County Officials and Others Concerned with the Economical Construction and Efficient Operation of Public Improvement Undertakings

This Heil fully enclosed refuse collection body features a traveling bucket and low loading height.

The large opening tailgate and 3-inch taper of the body provide for easy dumping of compressed garbage.

Heil Offers New Refuse Collection Unit

A pilot model of the new Colecto-Pak introduced by The Heil Co., 3000 W. Montana St., Milwaukee 1, Wis., is touring principal cities throughout the country as a demonstrator and meeting with a hearty reception by municipalities. This new type of refuse truck body and hoist not only loads and dumps wrapped garbage, but also packs or compresses it as well. The trimly designed, fully enclosed steel body is water tight and specially constructed for stresses and strains so as to cut weight to a minimum without any decrease in strength.

A feature of the new Colecto-Pak is the traveling, ¾-yard receiving bucket into which garbage cans are emptied. The top of the bucket is only 35 inches from the ground, permitting waist-high loading. When the bucket is loaded a buzzer signals the driver who engages the power take-off by means of a lever in the cab, and hydraulic cylinders lift the bucket smoothly to the top of the body, the top panel opens, and the load is dumped inside. The raising and lowering operation of the bucket takes less than a minute, occurs about twenty times per load, and may be operated when the truck is stationary or in motion.

As the bucket comes back to its loading position, a steel compressor plate automatically moves forward under hydraulic pressure and packs the load toward the rear of the body enabling the carrying of 20 cubic yards of wrapped garbage in a 10-cubic-yard body. The Colecto-Pak refuse collector is available in 8-, 10-, and 13-yard body sizes.

The famous Heil Twin Arm Hoist raises the Colecto-Pak body to a 45 degree dumping angle in twelve seconds, and will work regardless of any twisting action imposed upon the chassis by uneven terrain. The large opening provided by the tailgate and a 3-inch taper from the front to the rear permits easy discharge of the load despite its compression.

A Sewer Connection That Defies Roots and Infiltration

Any pipe which lies underground and must give service year after year has to be able not only to withstand the stresses of settling, but also the acids, alkalis, and the ever-present moisture in the soil. When, in addition to these outside corroding influences, such a pipe carries sewage with varying proportions of biting waste substances, it must be armed for this double hazard. Last but not least, the most important requirement of a pipe of this sort is its availability.

The last mentioned necessity possibly explains why during the war years, fiber pipe has been used increasingly for house-to-sewer connections. Since 1893, the parent of this "new" pipe, the Fibre Conduit Co., Orangeburg, N. Y., has manufactured bituminized fiber electrical conduit. Millions of feet of it are already being used to carry the communication wires of the police and fire departments and the distribution lines of municipal electrical systems. Does it have a place in the sewer fields?

The manufacturer answered this question. For 36 years 2,620 feet of Orangeburg conduit had been carrying the sewage from a factory-village. In 1942 this area became part of Camp Shanks. The necessary remodeling eliminated some of this fiber pipe. Exhumed and gaged, it was found to be uncracked and clear of roots. The maximum flattening after 36 years under a cover of earth and a railway siding besides was approximately ⅝ of an inch, indicating its extreme flexibility.

Heavier than electric conduit, it is laid in the ground without encasement, neither corrodes nor tuberculates, and possesses a high coefficient of discharge of C-15 (Williams & Hazen). This is the pipe to which states and cities began to turn for sewer connection with added assurance after the Camp Shanks report.

The chief obstacles in the way of widespread use of this type of pipe are the hurdles of the plumbing codes and the natural conservation of health authorities. The codes of nearly one hundred cities in half of the states now approve fiber pipe for house-to-sewer service, as do the health departments of five states.

L. G. Castner, Superintendent of Water, Blythe, Calif., writes: "In the past we have had difficulty with root growth penetrating our sewer lines, and we are interested in any pipe that would relieve this condition. I am convinced that Orangeburg is the answer to our problem. I recommend this pipe for all work of this nature because of the moderate cost, and the ease with which the pipe can be used, and the fact that it is root- and corrosion-proof."

Corpus Christi, Texas, approves its use "because roots are unable to pierce the pipe, there is less friction, better grades may be established by its use, cracked hubs caused by the ground movement are eliminated, and infiltration into the line is greatly lessened."

The pipe is 25 percent cellulous fiber and 75 percent coal tar pitch by weight. The tapered sleeve coupling drives easily onto the tapered joint of the pipe preventing root entry and providing a permanently tight joint. With a weight one-sixth that of steel, it is readily handled, and can be cut with a hand saw. It is available in diameters of 3-, 4-, 5-, 6-, and 8-inches.

After 36 years under a cover of earth and a railway siding this Orangeburg fiber pipe was flattened approximately ⅝ of an inch.

You're set to go with MILLER

DISTRIBUTORS WANTED for exclusive distribution of the famous MILLER PARKING METER in several Eastern, Midwest, and Southern states.

Expansion plans here at Duncan-Miller are far past the blueprint stage. Already Duncan-Miller have acquired a new plant . . . expanded manufacturing facilities. Bigger things are soon to come. Look ahead. Tie-in for a better, long-range post-war opportunity with *the leader in the parking meter field.* Distributor applicants are now being received. Write us your qualifications.

DUNCAN METER CORP. 5¢ 1¢ **835 NORTH WOOD STREET CHICAGO 22, ILL.**

Nickel Parking for the Long-Time Shopper *Penny Parking for the "in-and-outer"*

CITY STREETS REQUIRE PAVEMENTS TO BE IN SOLID CONTACT WITH RAILS.

Servicised PREMOLDED RAIL FILLER FOR TRACK INSULATION

MUFFLES NOISE BY DIMINISHING VIBRATIONS!

← Holds Rails Solid, But in Resilient Contact With Pavement.

Servicised—Bituminous Resilient Rail Filler Cuts Down Maintenance Costs for Both City and Railway Company by Eliminating Expansion & Contraction Damages.

NATURE OF OUR RAIL FILLER

Through many long years of successful service our resilient Rail Filler has more than proved its inherent value to both city and Ry. company. Waterproofing spaces between rails and pavement have prevented infiltration, freezing, cracking and costly deterioration; also eliminating problems of vibration, noise, contraction, expansion and costly re-alignments. Street Railway Systems are possibly the largest users of Servicised Rail Filler, but it is also frequently used where interstate or interurban railroads run in contact with city pavements for distances of a few blocks to several miles.

SERVICISED QUALITY PRODUCTS

SERVICISED PRODUCTS CORP.

6051 WEST 65TH STREET CHICAGO 38, ILL.

Advertising Manager for Fairbanks-Morse

Lewis A. (Lew) Harlow recently took over the post of Manager of the Advertising Division of Fairbanks, Morse & Co., Fairbanks Morse Bldg., Chicago 5, Ill.

L. A. Harlow

Mr. Harlow joined Fairbanks-Morse in 1943 as Assistant Advertising Manager and until his recent advancement helped supervise the many and varied advertising activities of the company.

Earlier in his career, he organized a publishing house for instruction manuals and textbooks for public schools, after being graduated from Harvard University. Some time later he became interested in radio as an entertainment and commercial medium, and spent a number of years producing and managing programs, in addition to managing his publishing interests.

R. D. Wood Moves Offices

The Philadelphia offices of the R. D. Wood Company are now located in the Public Ledger Building, Independence Square, Philadelphia 5, Pa.

Founded in 1803, R. D. Wood has for over 70 years manufactured and supplied cast iron pipe, Mathews hydrants, and gate valves to the water works industry.

Remington Rand's Systems Division Moves to New York

Remington Rand, Inc. announces the removal of the Executive, Sales, Merchandise, and Pricing Departments of the Systems Division from Buffalo to New York City. The new offices are located in the Remington Rand Building, 315 Fourth Ave., New York 10.

In announcing this relocation Al N. Seares, Vice-President and General Manager of the Systems Division, stated, "We believe location in New York will be advantageous to our customers and our nation-wide sales organization, as it unifies our administrative operations under more accessible conditions. It is ideally located because of the network of air, rail, and steamship lines radiating from it; because of its financial and business importance to the nation; its facilities for management research not readily available elsewhere; and because it is the home of so many publications. We confidently expect this change to enable us further to improve our service to customers throughout the nation."

● The seal that keeps the water in and the air out consists of two wearing surface seal rings made of Tungsten Carbide and a grease container. One seal ring rotates on the shaft and is held in contact with the stationary ring by a stainless steel spring. This method of sealing is specially suited for high pressure work and when handling dirty water—the higher the pressure the tighter the seal. Dirty water cannot get into the grease and damage the shaft and bearings. Air is kept out of the pump so there's no loss of vacuum and high priming efficiency is maintained.

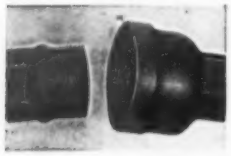
For details, see your local Carver distributor or write direct.

THE CARVER PUMP CO., Muscatine, Iowa

CARVER CENTRIFUGAL Certified PUMPS

NO SKILLED LABOR NEEDED

Any man with two hands and a wrench can lay *permanent* 2" water mains with McWane oversize THREADED joint cast iron pipe.

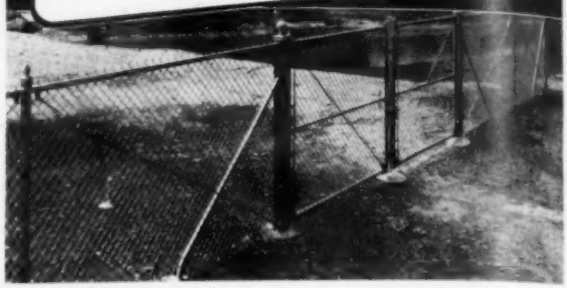


All he does in "screw 'em together" . . . a job made still easier by hex grips that hold the wrench firmly. No expensive equipment. No slow motion. No skilled labor. Prompt shipments!

McWANE CAST IRON PIPE CO.
Birmingham 2, Ala.

McWANE 2" CAST IRON PIPE

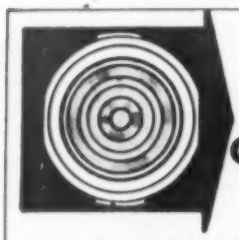
YOUR *BEST INSURANCE* AGAINST UNWARRANTED TRESPASSING!



Investigate Stewart Fence and other products for public property protection. If it's made of iron, wire or bronze, chances are we have it. Write us about your plans. We'll be glad to submit layouts and estimates free. If you want catalogues, please mention products in which you are interested. **The Stewart Iron Works Co., Inc., 1221 Stewart Block, Cincinnati 1, Ohio.**

Experts in Metal Fabrications Since 1886

Stewart IRON and WIRE FENCES



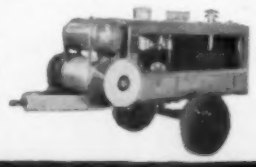
ONLY DAVEY COMPRESSORS HAVE GUARANTEED-FOR-LIFE VALVES

THE famous Davey Air Aristocrat compressor is the only portable air compressor with valves that are guaranteed for the life of the unit. All other parts of this rugged compressor embody the same skilled engineering, precision manufacturing and high-quality materials that make the valve guarantee possible.

Davey air-cooled aluminum alloy cylinder heads dissipate heat three times faster than ordinary heads made of cast iron. This heat-dissipating factor is the reason why the carbon-free stainless steel valves do not warp, crack or carbonize from overheating—making the lifetime valve guarantee possible. It is one of the reasons why Davey Compressors deliver their rated air capacities over a longer period of time—providing greater efficiency from air tools, better use of manpower and greater long-run economy.

For Complete Information on all Davey Air Aristocrat models and Davey Industrial Compressors, Auto-Air Compressors, Heavy Duty Truck Power Take-Offs and Pneumatic Saws, write for free Davey Catalog E-172.

D-845-7



DAVEY Compressor Co.
KENT • OHIO

DEALERS IN PRINCIPAL CITIES

BACK THEM BUY BONDS

Mark well this button. It is worn by the men and women honorably discharged from the armed services. Though now in civilian clothes, let's not forget their service to our country and us. They still rate our every consideration.

This Federal Traffik-King Siren combines an oscillating red light with great sound volume to warn motorists and vehicles.

Vehicle Warning Signal With Red Beam

Federal Traffik-King Sirens are outstanding vehicle warning signals and among the four models available Model 67 is especially suited for both police and fire apparatus as well as for other emergency services because of its great sound volume.

This siren is combined with a highly efficient motor-driven oscillating red light, throwing a beam from curb to curb at eye level to warn motorists and pedestrians. In these days of closed automobiles and loud playing of automobile radios, the visible as well as the audible factor is very important in providing adequate warning and identification of approaching emergency vehicles. The siren and light are controlled separately, but can be used simultaneously if so desired. This combination unit is compact and powerful and far less expensive in total cost as well as in installation and maintenance expense than would be a separate light and siren.

The Federal Electric Co., Inc., 8744 South State St., Chicago 19, Ill., will send complete descriptive literature.

New Home for Duncan Meter Corp.

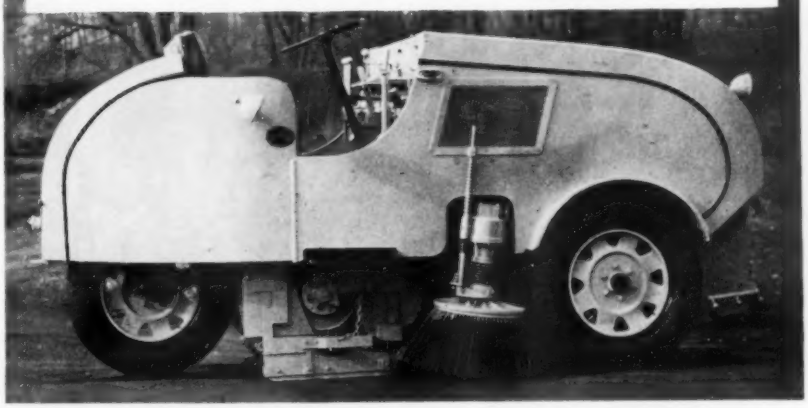
Duncan Meter Corporation recently moved into a new modernized four-story building located at 835 North Wood St., Chicago 22, Ill.—the first step in the company's expansion plans.

The company is planning the manufacture of Miller Parking meters on a large scale in anticipation of the tremendous demand which has accumulated.

According to D. V. Duncan, President, it is planned to produce everything that goes into the Miller meter within this plant just as soon as the necessary equipment can be secured.

South Bend GUTTER-SNIPE

Pick-up Street Sweeper



MUNICIPAL SUPPLY COMPANY

Manufacturers

Street Sweepers
Street Flushers
Bituminous Distributors

SOUTH BEND 23, INDIANA

EXPORT DEPARTMENT, 44 Whitehall Street, NEW YORK 4, N. Y., U. S. A.

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Fresh, high quality broom fibres last longer

AFRICAN BASS FIBRES

INDIA PALMYRAH STALKS

The longer mileage you obtain from fresh broom fibres means less time-taking refilling of the broom core and valuable man-hours put to an extra use. The use of fresh, high-quality fibres in your mechanical sweeper is sound economy these days.

We are able to service every need in all types and sizes. We would be happy to receive your request for samples and quotations.

MOUNTAIN HICKORY SPLINTS

STEEL WIRE SWEEPER STALKS

The OTTO GERDAU CO.

Established 1872

82 Wall Street, New York 5, N. Y.

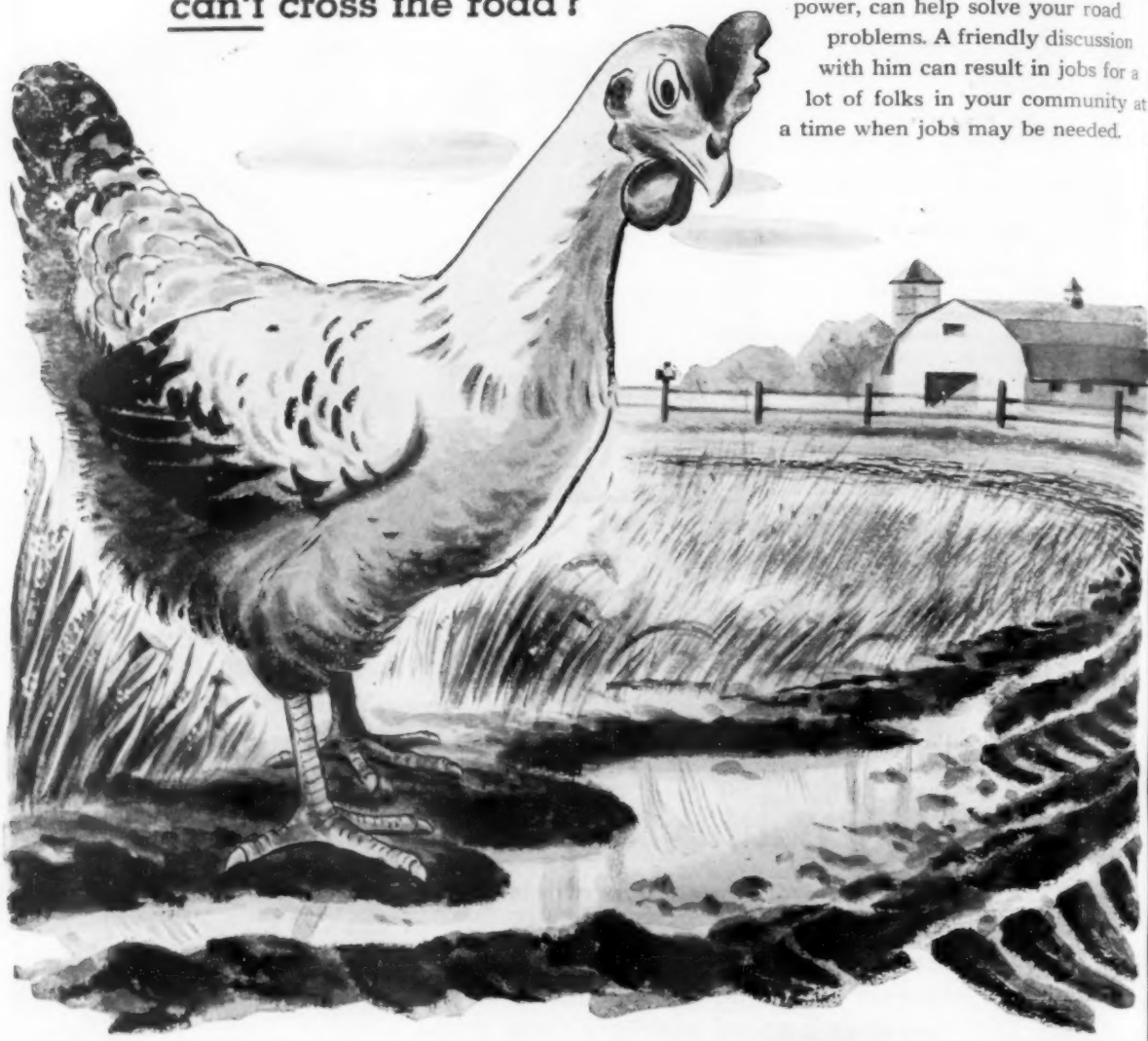
Any discussion of chickens and roads today raises a profoundly serious issue.

For chickens—and all other farm products—go to the nation's dinner table over a network of farm-to-market roads *which are rapidly breaking down.* More than 50 per cent of them have no surfacing whatsoever. Rough, pitted and dangerous, they cost the farmer money, cause delays, and disrupt the nation's food distribution system.

And the problem will become even more acute as traffic increases after the war . . . unless communities begin to plan at once for road repairs and construction

That is why we suggest you call in the Tarvia field man now. He can offer you the benefit of 40 years of successful experience in road construction, maintenance and repair. He can show you how Barrett Tarvia, with local materials and local manpower, can help solve your road problems. A friendly discussion with him can result in jobs for a lot of folks in your community at a time when jobs may be needed.

Suppose, some day, the chicken can't cross the road?



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In Canada: THE BARRETT CO., LTD. Montreal • Toronto • Winnipeg • Vancouver

Barrett Tarvia*

Personnel Changes at Electric Power Board of Chattanooga

E. C. Williamson, former System Operator, has been promoted to Superintendent of Operations of the Electric Power Board at Chattanooga, Tenn. He assumes the duties and responsibilities of H. G. Williams, who resigned his position August 15th because of poor health.

E. C. Williamson

Mr. Williamson brings to this position a long and experienced background qualifying him for his increased duties. His career began in 1910 when he joined the Buffalo and Niagara Falls Light and Power Company where he soon became Substation Construction Foreman and served as Substation Operator at times. In 1911 he moved to Chattanooga where he became Assistant Superintendent of Construction for the Chattanooga Railway and Light Company; in 1914 he was made Chief Engineer. In 1922 when this organization was consolidated with the Tennessee Electric Power Company he was placed in charge of substation construction and operation for the entire company and also was in charge of the laboratory. In 1939 he was placed in charge of substation and underground maintenance for the Electric Power Board of Chattanooga and later that same year was made System Operator.

New Lumo Floodlight

A new long-range floodlight for illuminating large areas has been announced by The Goodrich Electric Co., 4600 Belle Plaine Ave., Chicago 41, Ill.

One of the notable features is the new bracket mounting which provides calibrated adjustments for accurate positioning of the floodlight both vertically and laterally, simplifying installation and making it easy to maintain accurate focusing. For servicing the reflector it is merely tipped upwards and back so that the workman can work from behind. The floodlight is then returned to the exact setting so that the original focus is not disturbed.

LUMO FLOODLIGHT

The Lumo floodlight is finished in Alzak aluminum, an electro-chemical process which provides a hard, non-corrosive finish. It is available in either open style or with watertight, heat-resisting glass lens. Used individually or in combination with others, it can deliver either a narrow or medium beam.

New Silicone Valve Lubricant

Merco Nordstrom Valve Co., 400 Lexington Ave., Pittsburgh 8, Pa., is now distributing a new valve lubricant possessing properties advantageous for a number of severe services including steam, hot water, hot air, oxygen, high vacuum, and for dilute solutions of mineral acids, except nitric and hydrofluoric acid below 250° F.

This lubricant is a Dow Corning silicone product and is identified as Nordoseal Lubricant No. DC234-S. It is colorless and one of its outstanding properties is that its viscosity changes only slightly over a very wide range of temperature

Correction

Page 15 of our August issue contained an item "Fires That Hand Pumps Douse." This is about Waynesboro, Ohio, and not Waynesboro as reported.

COMPLETE SERVICE PARTS STOCK AT YOUR ELBOW

YOUR Automotive Jobber!

As close as your telephone, your Automotive Jobber stands ready to serve you with a stock of over 100,000 service parts, tools, equipment, supplies and accessories—and a completely equipped machine shop. For complete automotive service PLUS skilled mechanical service on gasoline motors, Diesels, compressors, pumps and many other units, call your Automotive Jobber. He has the trained machine shop personnel and the equipment to serve you promptly and efficiently.

You can depend upon your Automotive JOBBER!

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THE COMPLETE ASSOCIATION

Devoted to maintaining and improving the Quality Standards of Service Parts, Equipment and Accessories manufacture, distribution and installation in America's thirty million automotive vehicles, and millions of internal combustion engines, and mechanical equipment.

NATIONAL STANDARD PARTS ASSOCIATION
35th Floor, 8 South Michigan Avenue, Chicago 3, Illinois

FEDERAL ELECTRIC COMPANY, INC.

SIREN HEADQUARTERS

How

POWER

is built into this

FEDERAL

***Traffik-King* SIREN**

Oscillating Red Light;
Single or Double Tone; Coaster Model

The tremendously powerful tone of Federal Traffik-King sirens demands attention over other traffic noises, clears the way. This model has a distinctive double tone; and it coasts almost two minutes after current is off. Special clutch mechanism releases rotor; coasts much longer than so-called "long roll" types, which seldom roll over 30 seconds. Electric solenoid brake on rotor stops sound instantly. Durably built for long, dependable, maintenance-free service.

Rotors: cast aluminum, precision-machined, individually balanced. Thin, smooth blades for high efficiency.

Ports in rotor and stator accurately spaced, finished to square sharp edge; assure true pitch, powerful tone.

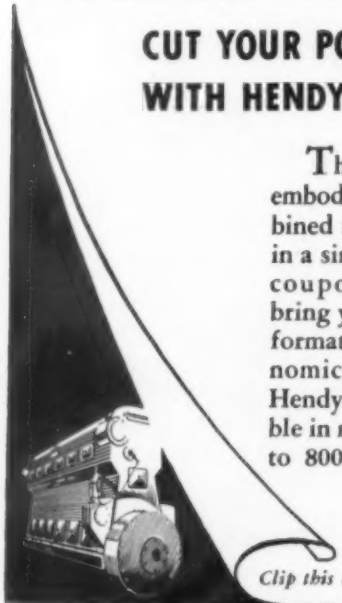
Motors: heavy duty; bronze or ball bearing; 6 or 12 volts.

WRITE for FREE BULLETINS

Details, illustrations, prices, on this and other FEDERAL Sirens

FEDERAL ELEC. CO., INC.
8744 South State St., Chicago 19, Ill.

CUT YOUR POWER COSTS WITH HENDY DIESELS



The Hendy Diesel embodies features combined for the first time in a single design. The coupon below will bring you complete information on the economical and efficient Hendy Diesel. Available in models from 190 to 800 hp.

Clip this coupon, mail it today!

Please send me your 16-page, 2-color illustrated booklet showing the modern features now available in Hendy Diesels.

Name _____

Company _____ *Position* _____

City _____ *Zone* ____ *State* _____

JOSHUA **HENDY** IRON WORKS
ESTABLISHED 1856
SUNNYVALE, CALIFORNIA

Do you know what it means to be HUNGRY?

Refugee children do. They know real hunger, bitter, maddening, day-after-day hunger.

Can you know a child's UN-HAPPINESS?

Neglected children, "war babies," youngsters in trouble . . . can you put yourself in their places? Can you feel in your heart the tragedy of an unhappy childhood?

Ever been HOMELESS?

Families of brave people —friends who fought on our side—are wandering aimlessly today. Going home? They have no homes!

Have you ever been really LONESOME?

Can YOU feel the bleak, hard loneliness of a soldier stationed on an island outpost far from the war fronts? Yes, YOU?

Can you imagine spending months in a HOSPITAL ROOM?

Thousands of soldie have to *live* it, the cru loneliness, the awful bo dom.

Give generously to

Your Community War Fund

Representing the National War Fund

Carey lastic is a new sealing material for expansion joints.

Hot-Poured, Rubber-Asphalt Compound for Sealing Joints

A new hot-poured rubber-asphalt compound for sealing joints in concrete paving and construction, called Careylastic, has just been announced by Lynn W. Young, Manager of Highway and Airfield Materials Department of The Philip Carey Mfg. Co., Cincinnati, Ohio.

Careylastic contains rubber, asphalt, and other ingredients combined to form a positive seal for expansion joints. Due to the elasticity of this product, the seasonal variation in joint dimensions does not result in extrusion of the seal, nor will its bond to adjacent construction break at low temperatures; thus a smooth, flush, watertight joint is maintained. Throughout the entire range of annual temperatures this infiltration-proof seal gives protection, and during the seasonal cycle of expansion and contraction the flexible bond retains its resiliency and cohesion, while permitting the normal compression and recovery of the non-extruding fiber joint filler.

The non-extruding characteristics and bond of this product help eliminate expensive maintenance because the yearly task of cutting out, cleaning, and repairing of the ordinary joint seal is dispensed with. The product is heated and installed by the same procedure as ordinary filler asphalt.

To Put Out a Vehicle Fire

Since one-ninth of all fire alarms are caused by motor vehicle fires, F. Dale Bacon, General Manager of the Fire Extinguisher Division of the General Detroit Corp., has announced a campaign to educate operators of motor cars, trucks, and buses in the fundamentals of motor vehicle fire fighting.

"While it is true," says Mr. Bacon, "that I.C.C. regulations require every interstate bus and truck to carry a fire extinguisher, we have recently made a survey which reveals that a large percentage of commercial car operators lack training in the fundamentals of motor vehicle fire fighting. It is for this reason that we have published a 32-page pocket-size book on 'How to Put Out a Motor Vehicle Fire' for fleet operating officials."

Write The General Detroit Corp., 2270 E. Jefferson Ave., Detroit 7, Mich.

PUBLIC OWNERSHIP

Facts about America's 10,000 publicly owned projects—bi-monthly, illustrated Magazine and News Letter — Extensive Bulletin and leaflet service. "Studies in Public Power," 25 chapters—latest data on Bonneville, Grand Coulee, TVA and other federal and municipal projects. For individuals, study groups and organizations. Send 10c for descriptive booklet and samples. Full service $5.00 per year.

Address: Public Ownership League of America

127 No. Dearborn Street, Chicago 2, Illinois.

The Ear That Locates Underground Leaks

GLOBE GEOPHONE

Locates leaks in water, air, and steam pipes quickly nad accurately.

Many times the Geophone on one leak alone saves more than the cost of the instrument. Successfully used for 25 years by many Water Systems, Industrial Plants, and U. S. Government Plants.

No water system, industrial plant, institution having underground piping, water, air, or steam, can afford to be without a Globe Geophone in their Maintenance Department. One Water Service Company has over 35 Globe Geophones in use in their various systems. The Globe Geophone is a time and money saver. It conserves water and steam.

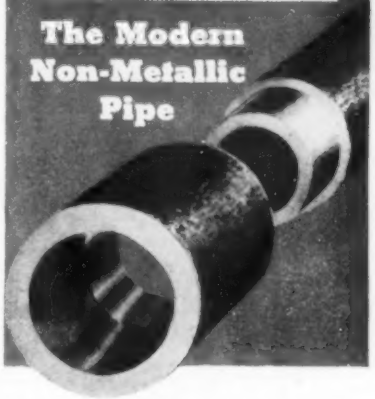
Price Complete with Leather Covered Carrying Case and Shoulder Strap... **$75.00**

SEND FOR FOLDER AND MORE DATA

GLOBE PHONE MFG. CORP.
Department H, Reading, Mass.

LASTS A LIFETIME underground

The Modern Non-Metallic Pipe



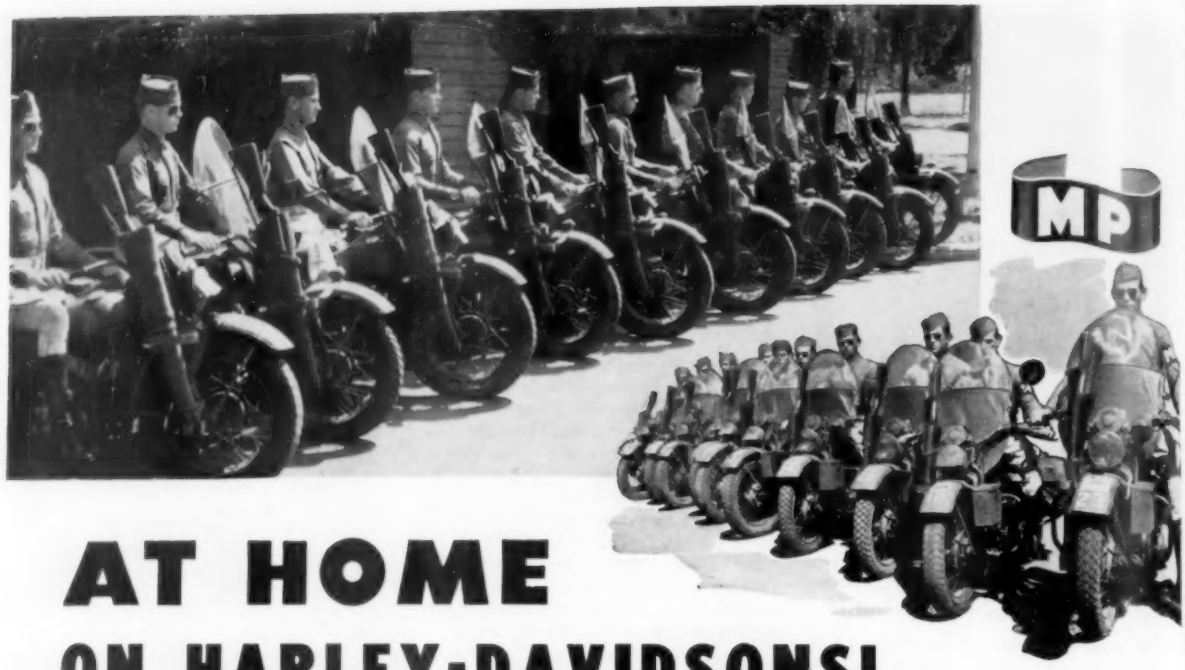
ORANGEBURG PIPE with TAPERWELD joints is now widely used in many progressive communities the country over. It is the permanent, non-corrodible, root-proof pipe that won't tuberculate, is easy to handle and install, does not chip or break easily, and is preferred for long, trouble-free service in

- **House-to-Sewer Connections**
- **Downspouts**
- **Industrial Drainage**
- **Septic Tank Filter Beds (Perforated)**
- **Foundation Drains (Perforated)**

ORANGEBURG PIPE has very low friction losses—increases flow capacity. Williams & Hazen Formula, C = 150.

Write for bulletins showing mechanical strength, hydraulic and chemical properties. THE FIBRE CONDUIT COMPANY, DEPT. AC-9-45, ORANGEBURG, N. Y.

ORANGEBURG
The Root-Proof Pipe



AT HOME
ON HARLEY-DAVIDSONS!

THERE'S a double meaning to the above headline — of special interest to Police officials. From now on, more and more Military Police and other experienced riders will be discharged from military service on points. What a "pool" from which to draw manpower for traffic and law enforcement duty!

Plan now for the future of your department — built on the secure foundation of fast, rugged, dependable Harley-Davidson Police Motorcycles. No other method can equal the efficiency of motorcycle-equipped squads for all-around police work. Men on Harley-Davidsons can cover more territory with greater frequency — have the speed and flexibility of action to enable them to concentrate quickly at scenes of trouble. Furthermore, they establish closer contact with the public and exercise more lasting and effective control through consistent evidence of official uniformed authority.

Due to relaxed military demands and increased civilian production, you are now in a more favorable position to have your orders approved by the War Production Board. Call your Harley-Davidson dealer and place your orders for earliest possible delivery.

HARLEY-DAVIDSON MOTOR CO., Milwaukee 1, Wisconsin

HARLEY-DAVIDSON

Police Motorcycles

Here Fognozl equipment is rapidly putting out a blaze.

Fog Nozzles Available For Fire Fighting

Fognozl fire-fighting equipment is widely used by municipal and industrial fire departments throughout the United States and Canada and in many other countries. For many months the manufacturing facilities of the Fog Nozzle Co., Los Angeles 11, Calif., have been engaged in supplying the Navy, Coast Guard, and Merchant Marine with this equipment. Now, however, recent developments in Washington indicate that the priority situation has been alleviated to the extent that the Fog Nozzle Company is once again in a position to serve its many civilian customers with a full line of available merchandise to suit their needs.

For printed matter or further information write to George D. Ramsay, Fog Nozzle Co., 1520 E. Slauson Ave., Los Angeles 11, Calif.

Mechanically Cleaned Bar Screens

Mechanically cleaned bar screens are now a part of the line of sewage treatment equipment offered by Yeomans Brothers Co., 1433 N. Dayton St. Chicago 22, Ill. These include several arrangements of angle or vertical types as well as tailor-made units to fit unusual requirements. They operate either automatically or manually with open, semi-enclosed, or fully enclosed varieties available.

Outstanding feature of the Yeomans screens is the arrangement of the spring-steel cleaning fingers in relation to the fixed bars on the bar rack. Each fixed bar at the bottom is offset, permitting the fingers of the rake head to enter the fixed-bar apparatus and make sliding contact with each bar. It is this action which thoroughly cleans the bar screens. The rake head is held fixed and rigid throughout the full upward travel and then automatically discharges at point of disposal from the screen. On the downward travel the rake head is again locked in the cleaning position. It cannot tilt or climb over screenings.

OK CHAMPION

SEWER CLEANERS

PROMPT DELIVERY — While the manufacture of material for the Armed Forces has slowed deliveries of our Power Model Sewer Cleaners, we build two sizes of hand-operated OK Champions that are ready for immediate shipment.

LOW COST—The OK Champion Junior and Standard Sewer Cleaners are nominally priced. The smallest towns and villages are now keeping their sewerage systems in 100% operating capacity with OK Champions.

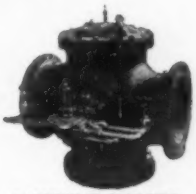
Ask for Literature

Champion Corporation

4716 Sheffield Ave. Hammond, Ind.

ROSS Automatic Valves

No distribution system is better than the valves that control it—

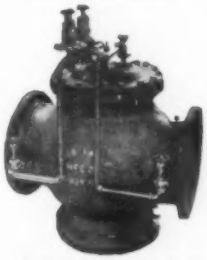


ALTITUDE VALVES

for

Control of elevation and heads into and out of tanks, basins and reservoirs.

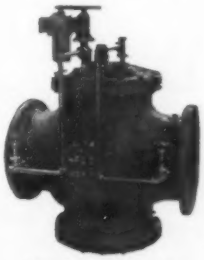
1. Single acting.
2. Double acting.
3. Combination assembly for three or more automatic operations.



COMBINATION VALVE

Combination automatic control both directions through the valve.

A self-contained unit, with three or more automatic controls.



REMOTE CONTROL VALVE

Electric remote control—solenoid or motor can be furnished.

Adapted for use as primary or secondary control on any of the hydraulically controlled or operated valves.

Write today for catalogs and details to fit your particular system.

ROSS VALVE MFG. CO.

INCORPORATED

P. O. BOX 596, TROY, N. Y.

BURROUGHS MACHINES ARE PREFERRED WHEREVER YOU GO

Because—there is no match for Burroughs machines . . . built with precision to operate with precision . . . designed to provide long and dependable service.

Because—there is no equal to the range of the Burroughs line . . . machines for practically every purpose . . . machines specifically designed for specific jobs . . . machines flexibly designed for versatility of application.

Because—there is no rival to the Burroughs maintenance service . . . prompt, dependable and efficient . . . organized to give Burroughs owners freedom from mechanical interruptions, to insure them the fullest use of their machines.

Because—there is no equivalent to Burroughs counsel . . . technical help by machine accounting men with years of experience in planning efficient applications and installations for all types of businesses.

BURROUGHS ADDING MACHINE COMPANY
DETROIT 32, MICHIGAN

FIGURING, ACCOUNTING AND STATISTICAL MACHINES • NATIONWIDE MAINTENANCE SERVICE • BUSINESS MACHINE SUPPLIES

Easton Vice-President of S. C. Baer Co.

His many friends in the advertising and publishing fields were glad to hear that Charles D. Easton has been named Vice-President of The S. C. Baer Co., Cincinnati, Ohio, advertising agency.

Charles D. Easton

Easton came to the Baer organization from Industrial Publications, Inc., Chicago, Ill., and prior to that was for many years advertising and sales promotion manager of The Philip Carey Mfg. Co., Lockland, Ohio.

Army-Navy "E" for Central Foundry Plant

The Central Foundry Co., 386 Fourth Ave., New York, N. Y., has been notified by Under-Secretary of War Robert P. Patterson that the Army-Navy production award was given to nts Holt, Ala., plant for high achievement in production of materials for the war effort.

Now Available!

METAL SIGNS

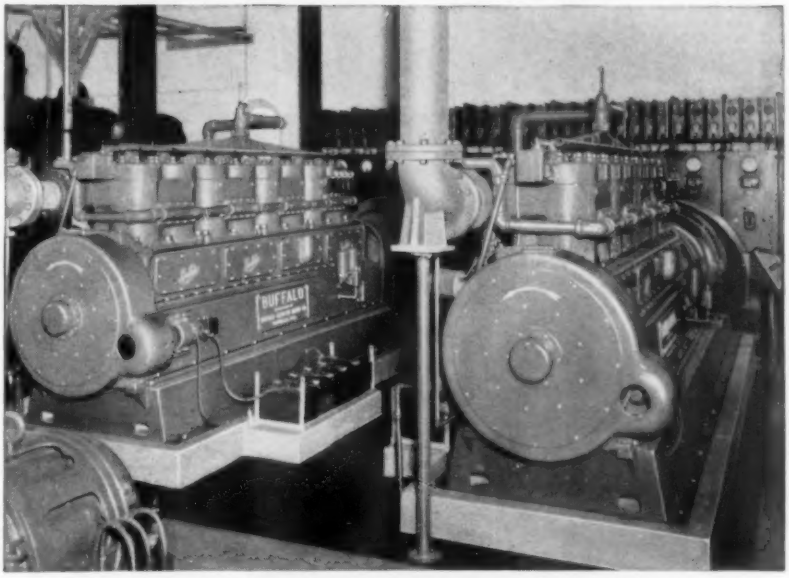
In the interest of safety and civic pride — now you can replace old and defaced signs with bright new Cataphote signs like this. Both Reflector and plain metal signs now available. Variety of messages. Long-life, low-cost, illumination assured by use of Cataphote Reflector Buttons. Day-and-night effectiveness. Brilliance guaranteed 3 years. Order today!

CATAPHOTE CORPORATION
Toledo, Ohio

THIS PROTECTION

BUFFALO ENGINES — ASSURANCE of PROTECTION

Pays for itself . . .



Lake Kilby Pumping Station, City of Portsmouth, Va. Two—ATT-8 Buffalo Gasoline Engines, each driving 300 KW, 1200 R.P.M., G. E. generators, installed by Dravo Corporation, 1943.

TO omit stand-by engine and pumping equipment invites trouble. When regular power service fails, the best to be hoped for is a flood of complaints from customers, taxpayers, or voters—and the worst is the risk of serious fire or epidemic.

The assurance of protection given by a BUFFALO stand-by motor generator or pumping set is well worth its cost—and the cost itself is returned to the community or user in lower insurance premiums.

Applied to a BUFFALO ENGINE installation, "assurance of protection" is no idle phrase. Years of special experience in building heavy-duty motors for this service have resulted in designs that have proven this assurance in thousands of important installations.

You can select a BUFFALO ENGINE that starts either manually, by remote control, or fully automatic—that reaches its full load in 30 seconds and runs at absolutely constant speed, delivering its power cleanly, quietly and without vibration.

Write for Specification Sheets for your files or information on any type of application that interests you.

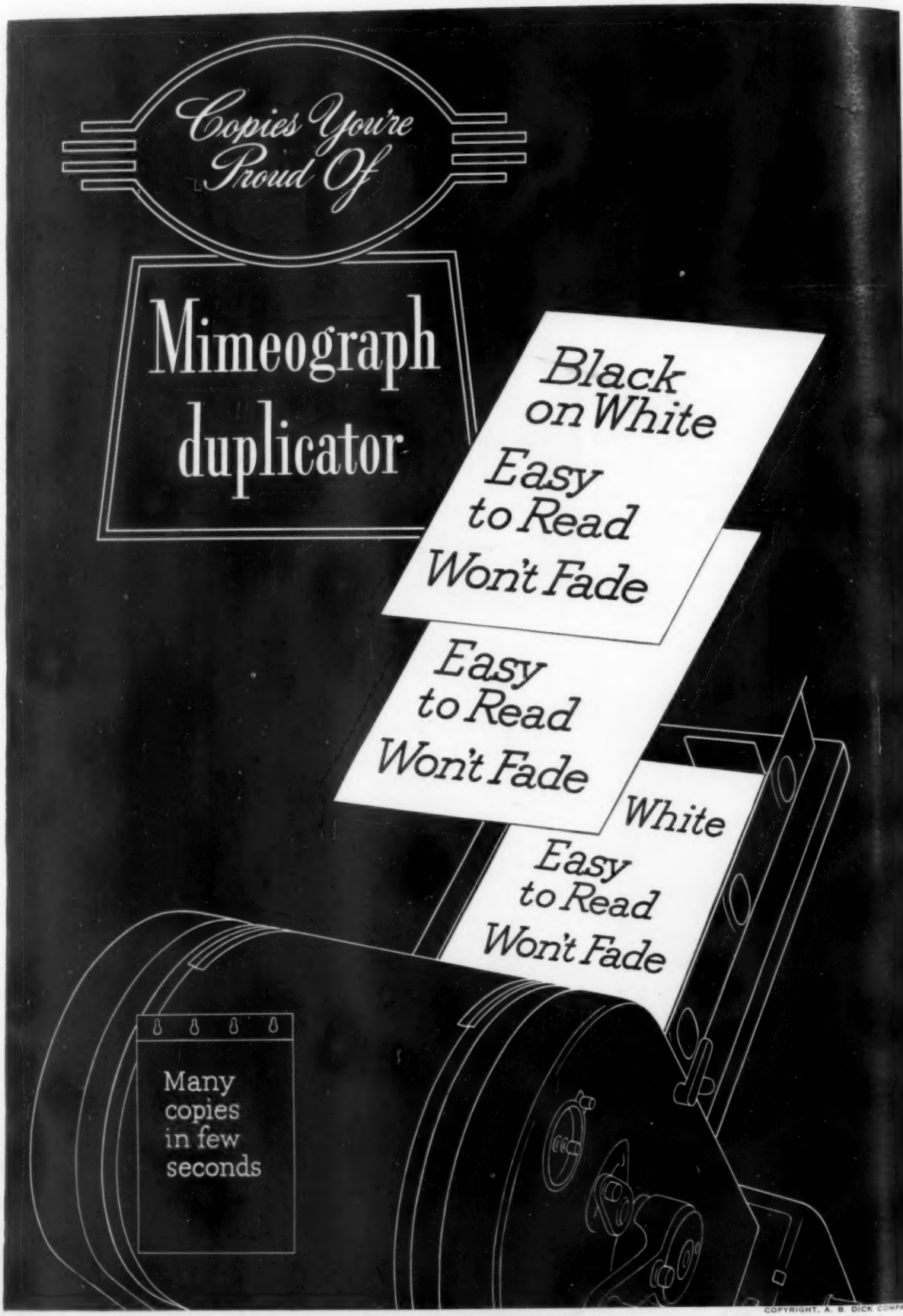
Write for Bulletin No. 11

BUFFALO GASOLENE MOTOR COMPANY

BUFFALO 13, N. Y., U. S. A.

BUFFALO ENGINES — ASSURANCE of PROTECTION

BUFFALO ENGINES — 100 H. P. THROUGH 750 H. P.— IN GENERATOR AND PUMPING SETS FOR WATER WORKS — AIRPORTS — COMMUNICATIONS — FLOOD CONTROL — HOSPITALS — INSTITUTIONS — MINES — MOVABLE BRIDGES — THEATRES — SEWAGE PLANTS.



MIMEOGRAPH is the trade-mark of A. B. Dick Company, Chicago, registered in the U. S. Patent Office. A. B. DICK COMPANY, Chicago. The Mimeograph Company, Ltd., Toronto.

The Three parts of the Drinkwater coupling, the two castings and the wedge key. The chain assembly prevents loss of parts

New Line of Flexible Pipe Couplings

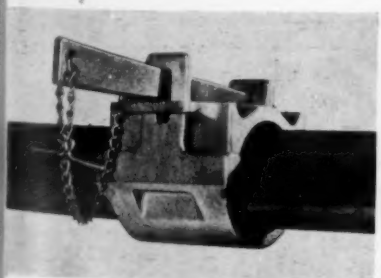
Faster coupling of pipe with greater flexibility is claimed by Drinkwater, Inc., 2323 S. Michigan Ave., Chicago, Ill., for its new line of flexible pipe couplings. These Presto-Lock Couplings are made in 11 sizes from 1¼ to 16 inches; 2 and 3 inches are immediately available and all other sizes will be available shortly.

Presto-Lock couplings can be used with any plain-end pipe without threads, grooves, or flanges. No wrenches or special tools of any kind are required in assembly; only a hammer is needed to tighten wedge keys after the two sections are fitted over pipe ends and wedge keys have been inserted in the key channels.

The three simple parts are the two corrosion-resistant malleable iron castings and the quick-locking wedge key. The gaskets which are used on all these couplings have been specially designed to effect a permanently tight seal on all types of pipe lines. The gaskets are available in synthetic rubber, neoprene, and natural rubber.

Actual tests by the manufacturer show that Presto-Lock flexible pipe couplings give up to 40 degree flexibility at each joint, acting as a sleeve, elbow, and ball union at all times. They can be used for repairing any size leak that the coupling will cover and they withstand all normal working pressures of gas, steam, oil, and water.

With these couplings plugged or frozen lines can be released immediately by a tap of the wedge key. Pipe can be readily turned if necessary.



A 3-inch Presto-Lock coupling as it looks when assembled. No special tools are required except a hammer for the final adjustment.

Peerless Pump Rearranges Sales Districts

Peerless Pump Division of Food Machinery Corp., 301 West Avenue 26, Los Angeles, Calif., announces the rearrangement of its territorial distribution of water pumps by the establishment of five sales districts.

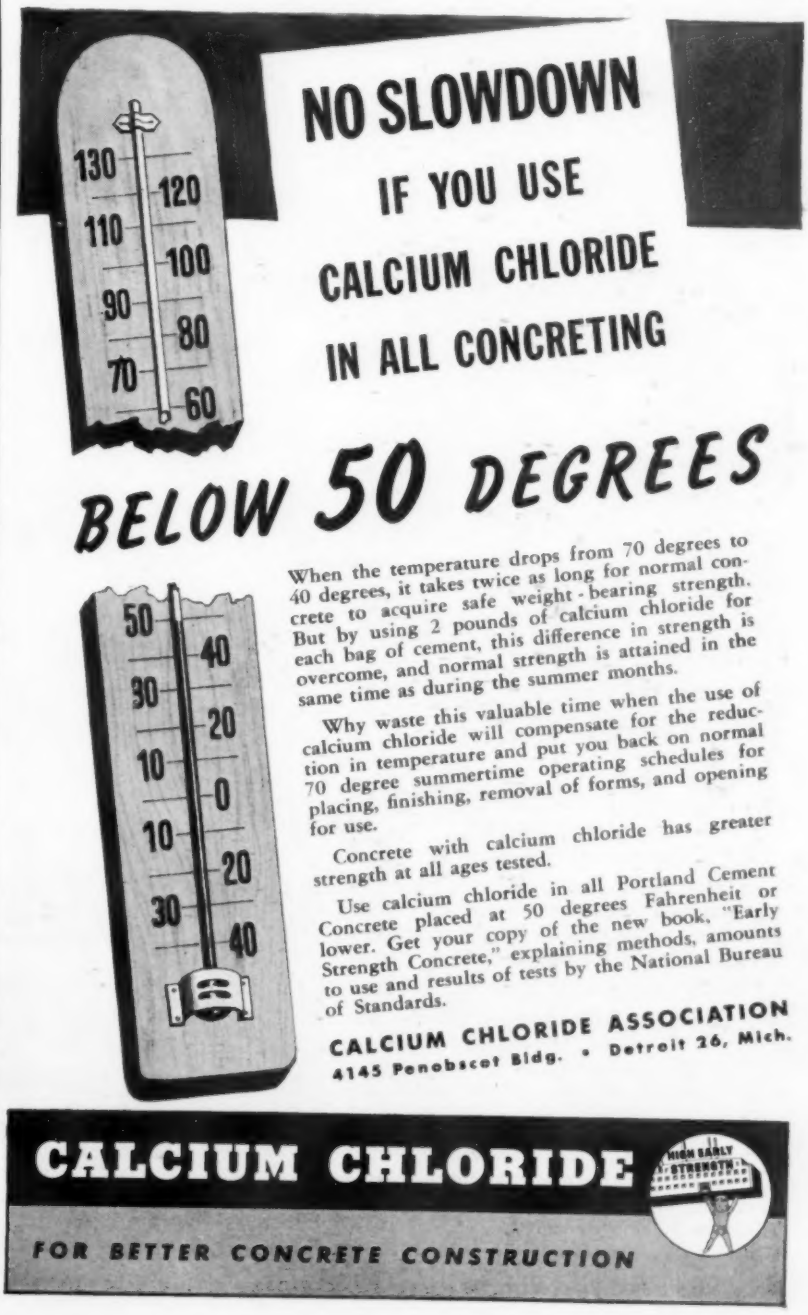
Warner G. Vaughan has been appointed Atlantic District Sales Manager with offices at Suburban Square, Ardmore, Pa. Mr. Vaughan was for several years representative in Washington, D. C., and negotiated government contracts for Peerless equipment.

The southeastern territory has been placed under the management of Charles E. Tierney with offices in the Blair Building, Decatur, Ga. He is well known in hydraulic circles, having devoted many years to pump engineering.

Edward W. Pierce will continue in charge of the Central territory making his headquarters at the company's Canton, Ohio, works.

William E. Griffin is District Sales Manager for the southwestern territory, with headquarters at 122 E. 5th St., Plainview, Texas.

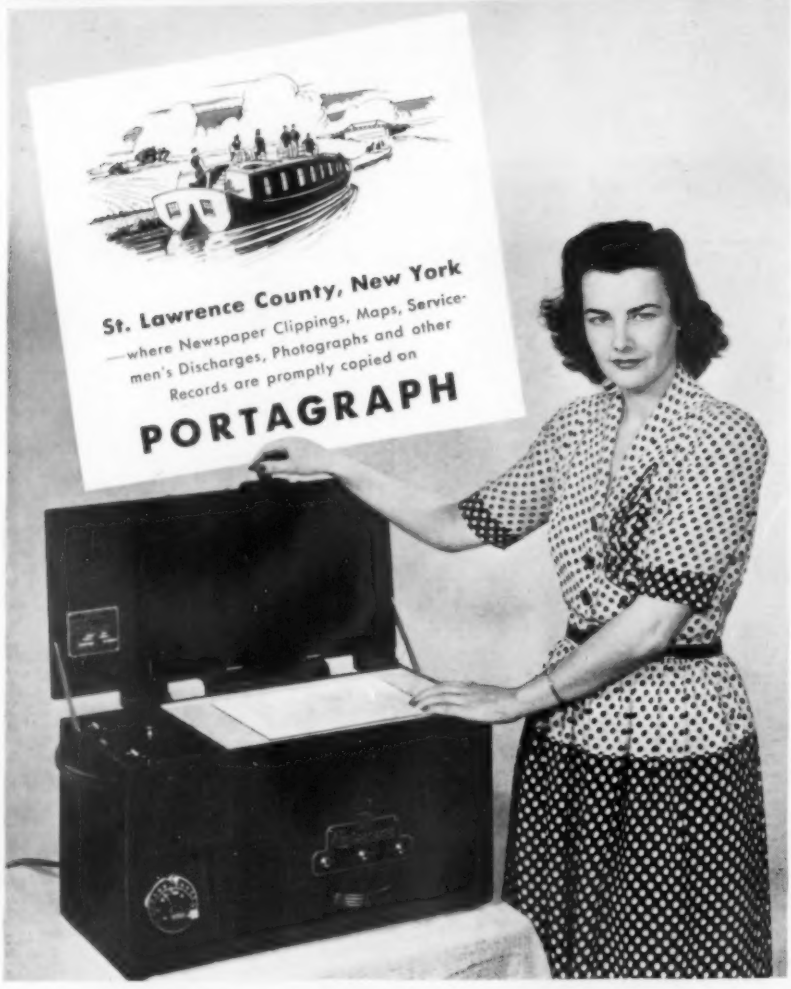
B. A. Tucker is Pacific District Sales Manager with headquarters at 301 West Avenue 26, Los Angeles. Mr. Tucker for several years was Manager of the Fresno, Calif., division of Peerless Pump.


NO SLOWDOWN
IF YOU USE
CALCIUM CHLORIDE
IN ALL CONCRETING
BELOW 50 DEGREES
130
120
110
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
When the temperature drops from 70 degrees to 40 degrees, it takes twice as long for normal concrete to acquire safe weight-bearing strength. But by using 2 pounds of calcium chloride for each bag of cement, this difference in strength is overcome, and normal strength is attained in the same time as during the summer months.
Why waste this valuable time when the use of calcium chloride will compensate for the reduction in temperature and put you back on normal 70 degree summertime operating schedules for placing, finishing, removal of forms, and opening for use.
Concrete with calcium chloride has greater strength at all ages tested.
Use calcium chloride in all Portland Cement Concrete placed at 50 degrees Fahrenheit or lower. Get your copy of the new book, "Early Strength Concrete," explaining methods, amounts to use and results of tests by the National Bureau of Standards.
CALCIUM CHLORIDE ASSOCIATION
4145 Penobscot Bldg. • Detroit 26, Mich.
CALCIUM CHLORIDE
HIGH EARLY STRENGTH
FOR BETTER CONCRETE CONSTRUCTION

Accurate, lowcost **PHOTOCOPIES** speed county historian's work!

PHOTOGRAPHIC REPRODUCTIONS

DATA FOR HISTORIANS


St. Lawrence County, New York
—where Newspaper Clippings, Maps, Service-men's Discharges, Photographs and other Records are promptly copied on
PORTAGRAPH

Thousands of servicemen's discharge papers will soon be added to the regular copying tasks in the office of Mr. J. Otto Hamele, Historian of St. Lawrence County, New York. But Mr. Hamele views this extra work with equanimity, thanks to the business-like methods and equipment he uses. His handy Portagraph will do it with ease and speed.

Portagraph is the sturdy Remington Rand photocopier that makes clean-cut, accurate reproductions of any record or document in a matter of minutes. Maps, old letters and newspaper clippings show up in fresh and clear detail for permanent preservation.

You save time and money too. Portagraph prints cost only a few cents each! The machine is simplicity itself to operate—quickly learned by any office boy or girl. No dark room is needed.

WHY NOT get the advantages of speedy Portagraph photocopying when you need them most—right now? Inquire at our nearest Branch Office, or write us in New York.

Remington Rand Performance from $59.50*

SPEED - VERSATILITY - SIMPLICITY - ECONOMY

*G-9 (not illustrated)—Size 9½" x 15"—equipped with manual timing control. An efficient, durable general purpose unit, now priced at $59.50, plus cost of accessories desired. Simple and easy to operate. Copies from single sheets or bound book.

G-10 (illustrated)—Size 9½" x 15" with electrical timing switch and dual sets of lights that assure uniformly fine reproductions. For use with roll paper or cut sheets. Like all other models, contains handy light-proof paper storage drawer.

G-11—20" x 24"—Contact photo-copies up to this size are quick, easy, inexpensive to reproduce on the G-11 Portagraph. Electrical timing switch is assurance of perfect results even in inexperienced hands. No dark room required.

REMINGTON RAND

PORTAGRAPH

PHOTO-COPY

YOU CAN COPY THE BETTER WITH PHOTOGRAPHY

PHOTOGRAPHIC RECORDS DIVISION, REMINGTON RAND, 315 FOURTH AVENUE, NEW YORK 10, N. Y.

Turbine Pump Manufacturers Meet

This photograph was taken at a meeting of the National Association of Vertical Turbine Pump Manufacturers at Veraestau, Aurora, Ind., the country home of Cornelius O'Brien, President of A. D. Cook, Inc., Lawrenceburg, Ind. The group seated are, left to right: Mr. O'Brien; E. B. Rausch, Executive Vice-President, American Well Works; F. I. Kemp, Manager Pump Division, Worthington Pump & Machinery Corp.; F. S. Main, President, Aurora Pump Co.
The group standing are, left to right: J. A. Walstrom, Secretary of the Association; L. C. Kimball, General Sales Manager, Byron Jackson Co.; A. G. Brown, Assistant Manager, Pump Division, Fairbanks, Morse & Co.; G. R. Deming, President, The Deming Co.; J. G. Gordon, Jr, President, Layne & Bowler, Inc.; W. H. Reeves, Manager, Lane & Bowler, Inc.; F. E. Fairman, Vice-President, Peerless Pump Division of Food Machinery Corp.; Joe Downs, Assistant to the President, A. D. Cook, Inc.; Harry Watkins, President, Layne & Bowler Corporation, Los Angeles, Calif.; Clarence Frazier, Vice-President of Food Machinery Corp.

Worthington Pump Appoints New Vice-President

Harry A. Feldbush has been named Vice-President in charge of Engineering for the entire Worthington Pump and Machinery Corp., Harrison, N. J. Mr. Feldbush who was formerly Works Manager of the Holyoke, Mass., plant, now will be located at the general offices in Harrison, N. J. His duties will cover engineering activities of all works and domestic subsidiary companies.

H. A. Feldbush

Ralph M. Watson has been made assistant to Mr. Feldbush.

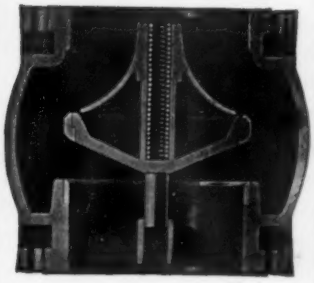
Propeller-Type Meter for Hot Water

Hitherto widely used for metering water at ordinary temperatures, the Builders Propeloflo Meter is now available for metering hot water up to 250° F. Of importance is the special high temperature grease which is used for lubrication.

The Venturi design and all other special features of this streamlined propeller-type meter are retained. The propeloflo is useful where a simple totalizing meter is desired.

Further information may be obtained from Builders-Providence, Inc. (Division of Builders Iron Foundry), Providence 1, R. I.

SMOLENSKY VALVES



■ **The Smolensky Radialflow Noiseless Check Valve eliminates water hammer, which assures operating efficiency and noiseless operation.**

Designed to be constructed with a cast iron body, plug, spider, and made with a renewal bronze valve seat or seat of other metal when required.

Specify Smolensky Valves for your water works plant and assure yourself years of trouble-free service.

Economy—Durability

THE SMOLENSKY VALVE CO.
940 BROADWAY, BEDFORD, OHIO

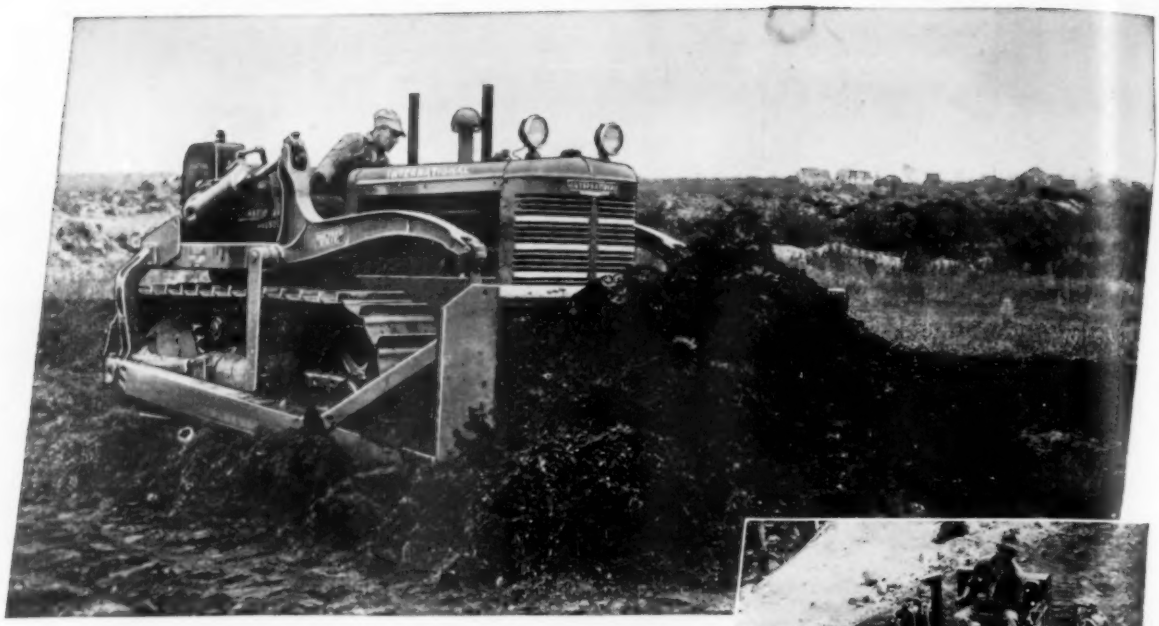
STOP *and* DRAIN

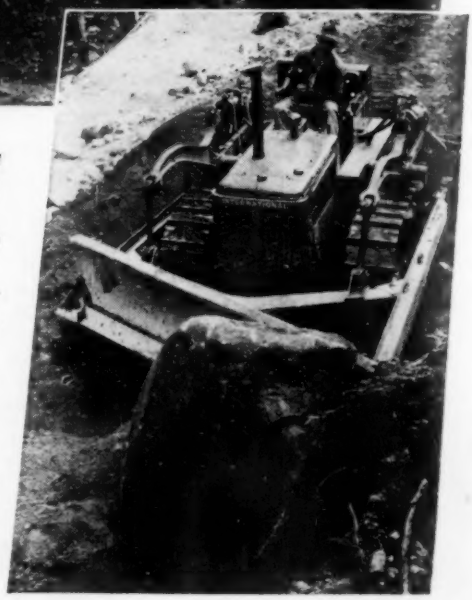
A McDONALD "DIAMOND" PRODUCT

Look to the McDonald "Diamond" trade mark for quality unexcelled—for all the experience and craftsmanship of the old timers is fashioned into these water works goods. Illustrated is the McDonald Patent Cap Stop and Drain Plate E-2832. Features flat way—high pressure, malleable tee or lever handles—right or left. Write for availabilities and prices.

EST. 1899 McDonald

A. Y. McDONALD MFG. CO.
DUBUQUE, IOWA
BRASS GOODS • PUMPS • OIL EQUIPMENT





PLENTY of PUSH

and the Power is INTERNATIONAL

International TracTracTors demonstrate how engine horsepower of a prime mover is effectively delivered to the bulldozer, scraper, ripper, wagon, etc. Through better balance by better weight distribution, plenty of push and pull is available for every piece of equipment designed for use with TracTracTors.

Operators like the way Internationals handle—their sure-footed traction—their maneuverability. And owners like the way Internationals stay on the job with minimum maintenance—their low operating costs, easily replaceable parts and overall durability—and the way they speed up the work cycle in earth moving, for example.

Get set for the projects ahead. Let an International Industrial Power Distributor recommend the kind and size of International TracTracTors, Industrial Wheel Tractors, and Power Units best suited for the jobs you have.

The upper picture shows an International TD-18 Diesel TracTracTor equipped with bulldozer moving a big bite of dirt on a highway project.

The smaller picture shows an International TD-9 Diesel TracTracTor nudging a large rock out of its way so the road can go through.

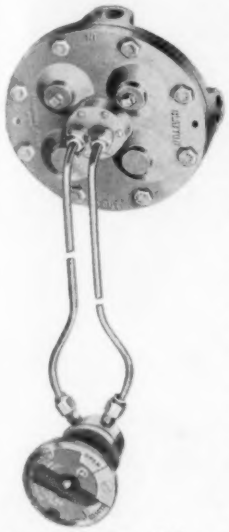
Industrial Power Division

INTERNATIONAL HARVESTER COMPANY

180 North Michigan Avenue **Chicago 1, Illinois**

Operation of Hydraulic Equipment Made Easy

Wherever it is necessary to control the flow of fluid by alternate supply and exhaust, the Clayton Forway valve will prove efficient. Hydraulic cylinder and fluid motor operations for hundreds of purposes can be controlled in smooth, quiet, and convenient manner. Control may be manual, electric, or by float mechanisms, due to the flexibility of the Clayton "Feather-touch" pilot.



Clayton Forway Valve

Where it is necessary to restrict the flow of pressure through the valve, limiting screws are available. Thus, the rate of flow can be regulated to permit operation at controlled speeds.

Clayton Manufacturing Co., Alhambra, Calif., will send you literature.

De Laval Labyrinth Wearing Rings contribute in a large measure to sustaining the high efficiency of De Laval pumps. The large clearance, tortuous labyrinth passage reduces leakage to a minimum and maintains ample running clearances under all conditions.

For sustained efficiency and reduced maintenance costs look for De Laval Labyrinth Wearing Rings when buying centrifugal pumps.

3235

DE LAVAL STEAM TURBINE CO.
TRENTON 2, NEW JERSEY

Bucket unloads in less than a minute under fingertip control.

Automatic, hydraulic-operated packer plate packs 20 yds. in a 10-yd. body.

Tapered body construction assures speedy discharge regardless of compression.

This new HEIL
COLECTO-PAK
Municipal Refuse Disposal Body

gives you

★ Low loading height
★ Double capacity
★ Complete enclosure
★ Easy maintenance

The all-enclosed, water-tight Heil Colecto-Pak is the answer to your search for a modern method of speeding-up, simplifying, and improving garbage collection and disposal.

This unit has a ¾-yard loading bucket at a 35-inch height making it extra easy to load. This "power-lifted" bucket deposits load and returns to starting position in less than a minute. At the same time the hydraulic-operated packer plate is compressing the material down toward the discharge end. It is possible to compress 20 yards of wrapped garbage into this 10-yard body.

With this unit your city has a clean, sanitary means of collecting garbage with none of the unsightly and unsanitary features imposed by "open body" collectors. Your city can feel proud of its advanced thinking in purchasing a Heil Colecto-Pak.

BH-114

Write for bulletins.

ARMY NAVY
THE HEIL CO.
GENERAL OFFICES • MILWAUKEE 1, WISCONSIN

WHY DO YOU FIND MAXIMS on the really TOUGH silencing jobs?

The giant Maxims standing out against the skyline below quiet the exhaust of Diesels on test stands at a large industrial Diesel manufacturing plant. Time and again in important installations of this kind and in many smaller installations where the silencing problem is none the less critical, the most satisfactory answer has been found with Maxims.

The reason "why" is threefold and lies in *experience, performance* and *adaptability.*

- Maxim can show more years of research and experience in solving tough silencing problems.
- Maxim performance over the years is typified in thousands of successful working installations, large and small.
- Maxim adaptability means a line of silencers so varied that it is seldom necessary to go beyond the standard silencers to get a job "tailor-made" for your installation.

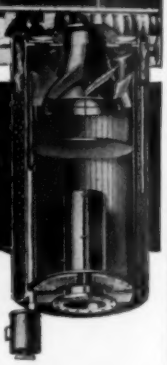
By the same token when special silencers *are* needed, Maxim engineers, constantly working on development and new design problems, are particularly capable of solving your special problems.

MAXIM EXHAUST & INTAKE SILENCERS

WRITE FOR BULLETINS
D 125
D 127
D 101
D 37//

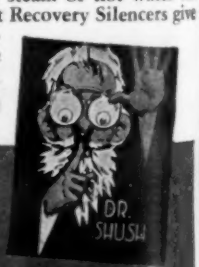
MAXIM HEAT RECOVERY SILENCERS

WRITE FOR BULLETINS
WH 100
WH 101
WH 103



These Maxim Silencers (model MUC illustrated) are designed to silence the exhaust or intake of internal combustion engines, steam engine exhaust, air compressor intake, vacuum pump discharge and the intake or discharge of blowers of the positive pressure type. Wide choice of models to fit varying space and silencing requirements. Spark arresting where necessary.

Maxim Heat Recovery Silencers combine efficient silencing of engine exhaust with spark arresting (where necessary) and with the efficient recovery of waste exhaust heat to produce steam or hot water for heating or processing operations. These Heat Recovery Silencers give highly efficient heat transfer . . . are available with automatic controls, and may be run wet or dry without injury to the unit.



THE MAXIM SILENCER CO. • 66 HOMESTEAD AVE., HARTFORD, CONN

ARMY ★★ E ★★ NAVY

MAXIM

As in hundreds of American cities, the influx of war workers at Honolulu, Hawaii, was so great the water supply was inadequate. Here is a 42-inch cast iron pipe being installed to increase water supply capacity.

Cast Iron Pipe at War

The Cast Iron Pipe Research Association, Peoples Gas Building, Chicago 3, Ill., has released in the latest issue of *Cast Iron Pipe News* the story of what the industry has done to aid the war effort. It is largely a pictorial record of their part in doing the job "that couldn't be done." This role was not a small one, for the organization not only provided pipe lines to convey water and gas for both housing and industry, but also manufactured such special equipment as parts for ships, planes, tanks and vehicles, guns, bombs, and bomb parts, parts for ammunition and a long list of miscellaneous parts for industrial use.

The editorial board of *Cast Iron Pipe News* is composed of D. B. Stokes, J. J. Swenson, John D. Capron, C. J. Day, W. P. Cox, T. V. Wood, Ralph R. Silver. Thomas F. Wolfe is Engineer for the organization.

New President for Ransome Machinery

Hobart C. Ramsey, Executive Vice-President of Worthington Pump and Machinery Corp., Harrison, N. J., has been named President of the Ransome Machinery Co., Dunellen, N. J., a subsidiary of Worthington which makes concrete mixers and road pavers.

H. C. Ramsey

J. G. Ten Eyck has also been named Vice-President and General Manager of the Dunellen plant. He has just completed five years of active service with the U. S. Navy, and was formerly President of the industrial engineering firm of Ten Eyck, Inc. Kenneth W. Horsman, formerly Superintendent of Welding and Steel Fabrication at the Worthington Harrison works has been transferred to Ransome as Works Manager.

Record Protection Service

Just prior to the war, a number of states passed legislation permitting the use of microfilming to preserve important records and documents. But the large-scale requisitioning of photographic equipment and materials during the war temporarily interrupted the growing trend toward the practice of microfilming among state and municipal agencies. In the meanwhile, however, a company thought up a new idea: a microfilming service. Hundreds of war industries were faced with the problem of keeping their records (1) as accessible as possible, (2) safe against fire hazards, sabotage, and possible bombing, (3) and, last but not least, in the smallest possible space. Microfilming was the answer.

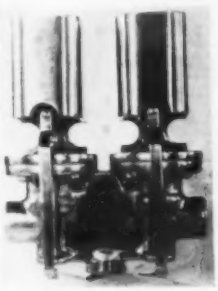
Microstat Corporation, 18 W. 48th St., New York 19, N. Y., was organized to do this job quickly and under expert supervision. The job is done under a contract that guarantees satisfaction and includes an insurance policy covering the reproduction of the records to their original size, if needed.

The Microstat service has working organizations in principal cities of this country, in Canada, South America, and Europe. The parent firm has just revised its name to York Microstat Corporation, a subsidiary of York Safe and Lock Co. Cities are invited to consult these specialist on any space savign and record-protection problems.

Western Sales Manager for Buffalo-Springfield

W. H. McClenen was recently appointed Western Sales Manager for The Buffalo-Springfield Roller Co., Springfield, Ohio. Mr. McClenen has been with the company since 1909, working for many years on sales contacts, service, and dealer instruction.

In 1920 he became a direct sales representative for the midwest area. His new duties will include sales promotion and service instruction to western distributors.



ELECTRO - HYDRAULIC VALVE CONTROLLERS

Remote Control or Automatic Operation

Air or Water

Handle All Operating Jobs

BENTON HARBOR ENGINEERING WORKS

P. O. Box 612—307 E. Main

Benton Harbor Michigan

INSTALLATIONS WORLD WIDE

LARGEST CITY TO SMALLEST VILLAGE

VALVES COMPLETE EQUIPMENT FOR WATER WORKS FILTRATION AND SEWAGE DISPOSAL PLANTS LATEST "COREY TYPE" HYDRANTS

Write for Catalogue and Information

IOWA VALVE CO.

General Offices:
Hubbell Bldg., Des Moines, Iowa

Plant:
Oskaloosa, Iowa

The expert engineering and manufacturing of traffic signals and controllers, that for almost four years were given over 100% to the manufacture of intricate mechanisms for the famous PT boat, are now turned again toward the lines of PEACE and SAFETY!

Available now to postwar purchasers is the newly designed and soundly engineered AUTO-FLOW TRAFFIC SIGNAL CONTROLLER; handsomely styled for your city, and with flexible features to meet your traffic problems.

MANUFACTURED
BY

SOUTHERN SWITCH & SIGNAL CO.

SHREVEPORT, LOUISIANA

Sales Manager for A. M. Byers

Robert H. Gardner has been appointed General Manager of Sales of the A. M. Byers Co., Pittsburgh, Pa., according to an announcement by L. F. Rains. He succeeds the late Myron J. Czarniecki.

Robert H. Gardner

Mr. Gardner has been manager of the company's Washington office since 1933, except for a four-year period ending in 1940 during which he was manager of the company's steel pipe sales, with headquarters in Pittsburgh. Before coming to Byers, he was Assistant Sales Manager of the Caterpillar Tractor Co.

Announcement was also made of the appointment of H. R. Rowland as Assistant General Manager of Sales. He joined the company's sales department in 1915. In 1925 he became manager of the Pittsburgh division, and in 1944 was named manager of hot-rolled sales.

W. W. Horner President Nominee of A.S.C.E.

Wesley Winans Horner, consulting engineer of St. Louis, Mo., has been selected as the official nominee for President of the American Society of Civil Engineers for 1946, it was announced by William N. Carey, Secretary of the Society.

W. W. Horner

For fifteen years Mr. Horner, nationally known authority on municipal and hydraulic engineering, was Chief Engineer of Sewers and Paving for the city of St. Louis. In addition to various projects for St. Louis, Mr. Horner's experience has taken him to Texas, Arkansas, and Washington, D. C., as consultant on drainage and sewer system problems, highway planning, and also on airport design.

He was consultant for the National Resources Planning Board, being responsible for a number of government reports on national drainage problems—the so-called "308 reports" covering the upper Mississippi, the Red, and the Arkansas Rivers. He is an expert consultant on many federal and regional projects such as the Interstate Committee on the Red River of the North, Board of Review, PWA; Soil Conservation Service; and flood control studies for the Department of Agriculture.

Mr. Horner has served on numerous committees of the American Society of Civil Engineers, and from 1933 to 1935 was a member of the Board of Directors of the society.

Election of Mr. Horner will take place in January 1946 and he will be inducted at the annual meeting of the society early that month.

Director of Public Relations for Westinghouse

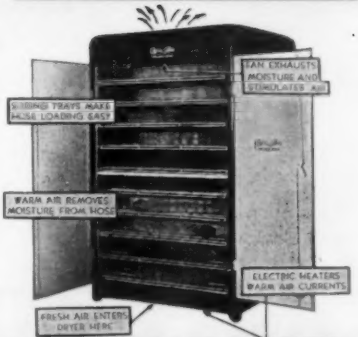
James A. Baubie has been named Director of the Public Relations Department of Westinghouse Electric Corporation, East Pittsburgh, Pa., according to a recent announcement by George H. Bucher, President.

Mr. Baubie joined Westinghouse in 1937 and has been a writer, manager of the company's Central Publicity Division, and, since November 1943, Assistant Manager of the Public Relations Department. He now assumes responsibility for the company's activities in the public relations field, which were formerly under the direction of G. Edward Pendray, Assistant to the President, who resigned to open offices in New York as a counsel in public relations.

CIRCUL-AIR

FIRE HOSE DRYER

- Is easier to use
- Saves drying time
- Reduces hose stretch
- Prevents mildew and rot
- Improves building design
- Air-conditions as it dries


FAN EXHAUSTS MOISTURE AND STIMULATES AIR
SLIDING TRAYS MAKE HOSE LOADING EASY
WARM AIR REMOVES MOISTURE FROM HOSE
ELECTRIC HEATERS WARM AIR CURRENTS
FRESH AIR ENTERS DRYER HERE

THE CIRCUL-AIR CORPORATION
6339 East Palmer Avenue
DETROIT 11, MICHIGAN

over 90 years of
progressive storage tank engineering!

Established in 1854, the R. D. Cole Mfg. Co. has long been recognized as one of the nation's outstanding tank builders. With over 90 years of "progressive storage tank experience" at your disposal, we shall welcome the opportunity to serve your tank needs.

All shapes and sizes

We have developed a complete line of elevated steel tanks for water supply, both for domestic service, and sprinkler requirements, ranging in capacity from 5,000 to 2,000,000 gallons. The designs include the standard Hemi-spherical and Self-supporting bottom, the "Cole Ovaloid," Standpipe, and many individual styles.

Storage Tanks

We also make pressure tanks for storage of gas from digestors at sewage disposal plants so that excess output at peak loads can be used during off-peak periods. Also chemical storage tanks, hot water storage tanks, tanks for bulk storage of oils and gas.

Write for "Tank Talk—No. 15A

R.D.COLE MFG.CO.
Established in 1854
NEWNAN · · · GEORGIA

FOR THE TAX ASSESSOR

FOR THE BILLER

FOR THE COLLECTOR

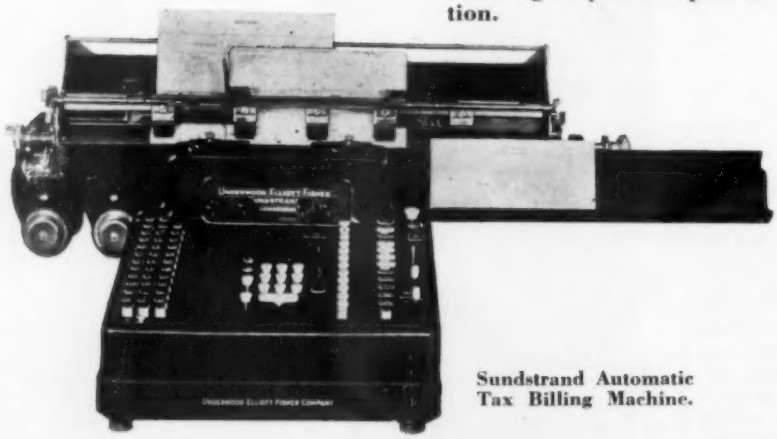
Before the war an increasing number of municipalities were installing Sundstrand Municipal Accounting Machines to do their tax billing, posting, and budgetary accounting. Camden, Stratford, Rochester, Dunkirk, Lewiston—the list was growing.

During the war, a number of new municipalities sought to obtain Sundstand Machines. Throughout that grim period, the Underwood Corporation continued to assist cities with their accounting problems and, where possible, supplied machines—as in Passaic and Portland.

In this Post War era, (it's here!) our service to the municipal accounting field will proceed with even greater attention to the details which can make or mar a modern mechanized accounting system.

We have studied municipal accounting not as a single operation, but as a consistent and interrelated series of operations consisting of Assessing, Billing, Collecting, Posting, Follow Up of Delinquencies, Budget Work. We have thought in terms of the problems facing the men who are responsible for each procedure—the Assessor, the Tax Biller, the Tax Collector, the Chief Finance Officer, the Mayor and Council or Commission. We are prepared to help each and all in making municipal accounting a smoother, quicker, less onerous task. The Sundstrand machine is designed for your work. Remember—it's fully automatic.

Let us give you the particulars . . . without obligation.



Sundstrand Automatic
Tax Billing Machine.

UNDERWOOD CORPORATION

Manufacturer of the Famous Sundstrand Municipal Accounting Machine

One Park Avenue — New York 16, N. Y.

Akers President of Griswold-Eshleman

Kenneth W. Akers has been elected President of Griswold-Eshleman Co., 2700 Terminal Tower, Cleveland, Ohio. For the past five years he has been Executive Vice-President and Creative Director of this organization.

K. W. Akers

C. L. Eshleman, one of the original founders of the company in 1912 and President since 1932, becomes Chairman of the Board of Directors. Other reelected officers are: S. A. Lewis, Vice-President; C. J. Farran, Vice-President; J. F. Davis, Secretary and Treasurer.

Acknowledged to be one of the country's top-ranking advertising creative men, Mr. Akers has received national recognition in the form of awards for excellence of his campaigns, and by his election as chairman of advertising committees of various drives, campaigns, and promotions in connection with the war effort.

Mr. Akers joined Griswold-Eshleman in January 1934 following extensive and varied experience in the fields of sales and advertising, including his connection as Assistant Advertising Manager of the National Refining Company. Following that he was with two advertising agencies and for several years taught night courses in advertising.

His first position with Griswold-Eshleman was that of Creative Director. He became Vice-President and Creative Director in 1937, and Executive Vice-President and Creative Director in 1940.

A. G. Kirker Joins Boston Office of Pemco

A. G. Kirker has been appointed Service Engineer in the Boston district office of the Pittsburgh Equitable Meter Co.-Merco-Nordstrom Valve Co., Pittsburgh, Pa.

A. G. Kirker

Mr. Kirker will work under F. C. Arens, District Manager, and will handle the sale and service of both Pemco-Merco products in Connecticut and sections of the state of Rhode Island.

Personnel Changes at The Okonite Co.

The Okonite Co., Passaic, N. J., recently announced the following changes in personnel:

E. J. Garrigan has been made Vice-President in Charge of Sales and will be responsible for directing all sales activities of The Okonite Co., its Hazard Insulated Wire Works Division, and its affiliate, The Okonite-Callender Cable Co., Inc. Mr. Garrigan joined the Okonite organization in 1924, and will make his headquarters at the executive offices in Passaic, N. J.

C. E. Brown, Jr., formerly Vice-President in charge of the Washington, D. C., office, has been appointed Vice-President and General Sales Manager to coordinate the activities of the executive offices in Passaic with the company's eighteen branch offices. He will have offices at Passaic, N. J., as well as in the New York district sales office at 501 Fifth Ave. He has been connected with the Okonite sales organization since 1919, first as an agent with the Central Electric Co. of Chicago, and later, in 1925, as Manager of Okonite's power and light department in the Chicago territory. Mr. Brown will also take over the duties of the late W. K. Vanderpool, acting as a contact executive between utilities and Okonite's utility specialists in branch offices.

The *Coagulant* that *Cuts Costs!*

TENNESSEE CORPORATION Ferri-floc FERRIC SULPHATE

Ferri-floc . . . the ferric coagulant that is successfully and economically used in sewage treatment throughout the United States. Take advantage of modern plant research and findings: use Ferri-floc.

Tennessee Corporation's technical staff will be glad to help you with your specific problems. Write to us today. The consultation service is free, of course.

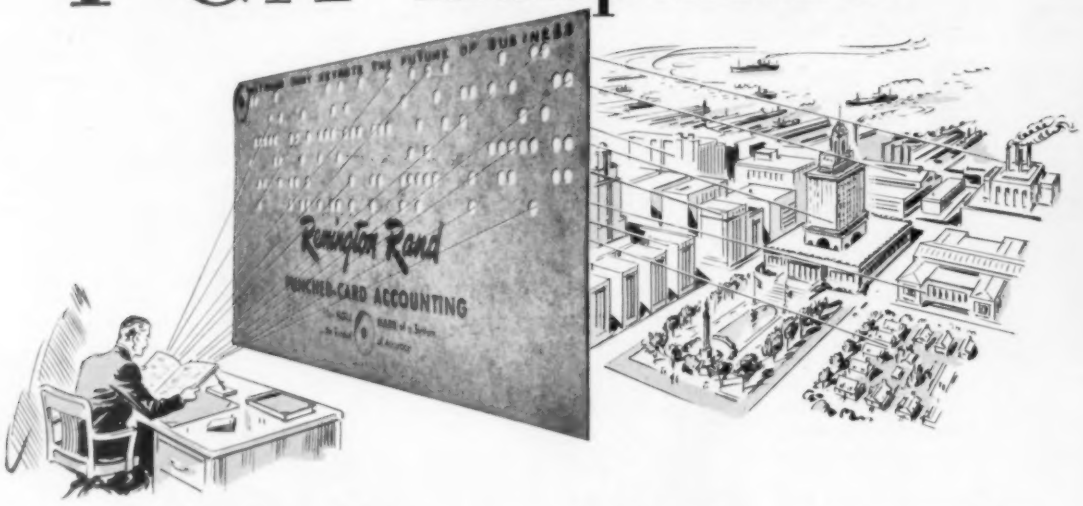
The Mark of Quality

TC TENNESSEE CORPORATION

Tennessee Corporation

Atlanta, Georgia Lockland, Ohio

"PCA" indispensable



to efficient municipal accounting

Oakland, California, City Auditor, holds control reins to all municipal finances through Remington Rand Punched-Card Accounting.

• The growing breadth of municipal activities, combined with increased public demand for governmental efficiency, makes modern accounting methods indispensable. Russell C. Horstmann, City Auditor, reports:

"The City of Oakland operates under a City Manager. The charter and ordinances provide for centralized accounting with complete control by the City Auditor.

"This centralization has made possible a business-like control in fact as well as in name. The need for careful accounting of income and expenditure, with allocation to proper functions, appropriations, and object accounts, caused us to adopt Remington Rand Punched-Card Accounting Methods in 1943. Our first year's operation definitely proved the effectiveness and multiple advantages of these methods. We believe that we have the ideal form of centralized municipal accounting.

"A tremendous responsibility rests upon the City Auditor which, through punched-card reports, he is able to discharge in a thorough manner that avoids complaint and criticism. He is supplied with accounting reports that were impossible to prepare under the old, decentralized, manual accounting system.

"We are handling with punched cards the accounting of seventy active appropriations and one hundred thirty-four funds. Tax collection accounting is performed for the city by the county, which has also adopted Remington Rand Punched-Card Methods.

"We believe that Remington Rand Punched-Card Methods give the public the accurate and adequate control over expenditures to which it is entitled. We know that it simplifies and makes much more efficient the work of the City Auditor and his department. Every board, department, and fund covered by punched-card accounting has its work speeded and harmonized very effectively. We expect to see the great field of municipal accounting widely adopt this method in the very near future."

The story of the Oakland procedure is told in Certified Report No. 4407; obtainable by writing to our nearest branch office or to Remington Rand Inc., Tabulating Machines Div., Rm. 1748, 315 Fourth Ave., New York 10, N. Y.

• KWIK-FAX •

REMINGTON RAND
TABULATING
CARDS

can record 108 columns of numerical information or 90 columns of alphabetical and numerical.

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BUY BONDS—*Complete the Victory!*

Remington Rand

PUNCHED-CARD ACCOUNTING

The HOLE the Symbol MARK of a Method of Accuracy

Write for: "The HOLE-STORY of Punched-Card Accounting"
the book that tells a vital story to business. It's FREE!

OCT 2 2 1945

OCTOBER, 1945

The American City

PERIODICAL
GENERAL LIBRARY
UNIV. OF MICH.

When a city modernizes its accounting procedures, there are sure to be top officials as well as business machines in the picture. Austin, Texas, has made almost a clean sweep of its accounting methods. And, clockwise, in this picture are Walter E. Seaholm, Director of Public Utilities; City Commissioners Gillis, Alford, and Bartholomew; Commissoner Seaholm, Mayor Tom Miller, and City Clerk Hallie McKellar; then Director of Finance J. D. Hoffman; the Municipal Building, the tax department machine room, the water and light business machines, and the central stores office.

See pages 7 and 109 of this issue